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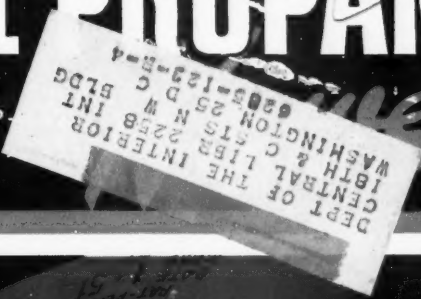
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BUTANE-PROPANE

HEADQUARTERS FOR LP-
INFORMATION SINCE



the Scaife
Info-Crown
an
exclusive feature
of



SCAIFE
Dura-Lite

Cylinders

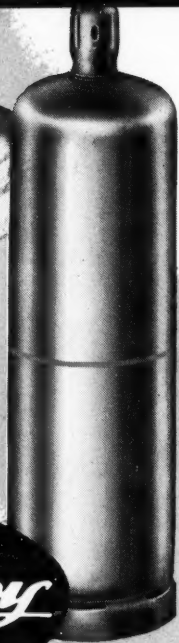


Scaife Company

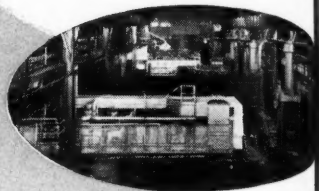
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to give you *Better Hackney Cylinders!*

What makes a Hackney LP-Gas Cylinder so good? So good that it's preferred by LP-Gas operators over all other cylinders by more than 2 to 1!

You're right! It's *skill—skill in modern manufacturing*. Skill as represented by huge presses, smooth-flowing production lines, unexcelled testing machinery—and highly trained workmen.

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- 227 Hanna Bldg., Cleveland 15
- 936 W. Peachtree St. N.W., Room 112, Atlanta 3
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ANCO

ICC "Pig" CYLINDER

WE INVITE YOUR REFERENCE TO

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Diameter—32"

Capacity—949#
water capacity

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Fisher Regulator
Rochester Visi-ral
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1 1/4" Filler Valve

3/4" Vapor Return
1/4" Outage
Safety Relief Valve
House Line Valve

"Tariff No. 8, ICC Regulations for Transportation of Explosive and other Dangerous Articles by Land and Water in Rail Freight Service and Motor Vehicle (Highway) and Water including Specifications for Shipping Containers." . . . Agent H. A. Campbell, issued March 15, 1951, effective April 15, 1951, Section 73.315, Page 77, Paragraph 5 under 10.

This paragraph states specifically:

"Storage containers of less than 1042# water capacity (125 gallons) may be shipped when charged with LPG in compliance with ICC filled density."

ICC Filling Density, of course, is 90% of Subject Container, which indicates that our ANCO ALL-PURPOSE ICC "PIG" CYLINDER can be completely filled (that is, 90%) and transported over the highway.

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SEPTEMBER, 1951

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VOLUME 13 • NUMBER 9

BUTANE-PROPANE

ABC CCA News

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Letters

HEADQUARTERS FOR LP-GAS INFORMATION SINCE 1931

FLORIDA

How would you compare butane at 24c per gal. and propane at 5c per lb. as to cost of operation?

L.R.W.

Heating value of normal butane is 103,000 Btu/gal. @ 60°F.

Heating value of normal propane is 91,300 Btu/gal. @ 60°F.

One gallon of propane @ 60°F contains 4.23 lb. Propane at 5 cents per lb. = $5 \times 4.23 = 21.15$ cents per gal.

On the basis of heat content, it will require 103,000 or 1.13 gal. of propane to supply as much

91,300

heat as one gal. of n-butane. Therefore, the equivalent cost of propane = $1.13 \times 21.2c = 23.9c$ per gal.

The above information and calculations are based on the pure hydrocarbons propane and n-butane. The word "butane" is often applied to mixtures of n-butane or iso-butane, or both, and propane. The amount of propane which is in such so-called butanes may be as much as 50%. Therefore, if such mixtures are used, these calculations would not apply.—Ed.

OREGON

We are sometimes confused by differences in tables of orifice sizes. Please explain how these are determined and give us a reference we can use.

O.S.

The flow of gas through an orifice is determined by a mathematical formula which is made up of the five following items: Quantity, area of the orifice, gas pressure, specific gravity of the gas, and a factor called the co-efficient of discharge. When any four of these items are known, the fifth can be determined. The factor, co-efficient of discharge, is the one item which has to be determined experimentally, and it is affected by the size of the orifice, and the angle of approach to the orifice, the length of the orifice, and other factors. Since this factor varies from .64 to as high as .97, it is easy to see that a difference of one or two hundredths in the determination of this factor would affect the calculated flow accordingly.

If you are furnishing your own orifices in the field, we would like to refer you to Page 120 of "The

Bottled Gas Manual" to the paragraph entitled "The Difference Between Factory and Field Drilled Orifices." Field drilling usually produces an oversized orifice; and this fact should be taken into consideration when determining the size of the orifice.—Ed.

TEXAS

I need to know what quantity of butane or propane will be required to replace, say, 1000 gallons of fuel oil per day for an engine.

J.W.M.

A gallon of fuel oil will release 128,000 to 138,000 Btu when completely burned, depending on the grade of oil. A 50-50 mixture of propane and butane will release about 98,000 Btu per gal. and commercial propane will release about 93,000 Btu per gal. when completely burned.

Assume an oil having a heating value of 135,000 Btu per gal. Then 1000 gal. oil $\times 135,000$ Btu per gal. $\div 93,000$ Btu per gal. of propane = 148 gal. of propane required to replace 1000 gal. oil, when both fuels are completely burned.—Ed.

MISSOURI

We have an apartment building that is constructed of concrete blocks and directly to the inside walls the rooms are plastered. There are no furring strips between the concrete blocks and the plaster. We are heating these apartments with vented type circulator heaters and the apartment owner advised that the walls sweat.

We have checked the heaters for combustion and also the venting and also the chimney draft and find all

• BUTANE-PROPANE NEWS welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed by them.—Editor.

to be in perfect working order. Our personal opinion is that our gas heaters have no bearing on this sweating problem, but since we are new in the gas heating business, we have nothing to base our opinion on except our personal feelings.

The downstairs apartment is where this trouble arises, but we do not find the trouble in the apartment upstairs, but those apartments are surrounded by a wooden frame structure on the outside rather than the concrete blocks.

W.A.S.

We do not believe gas heating with vented heaters is causing the trouble you describe. There is a remote possibility that there is a leak in the combustion chamber of the heater either through a poorly sealed opening or a joint. Examine it carefully. Does the air for combustion enter the combustion chamber from outside the apartment or from the room in which the unit is located? If the air for combustion comes from the room in which the heater is located and the apartment is very tight (doors and windows tightly closed), it is possible that the vent cannot draw the burned gases out properly and they will feed back into the room.

The construction of the walls of the lower apartment is ideal to produce cold walls and we are not surprised that "sweating" does occur. We would expect this trouble regardless of the method or type of heating.

Following are some of the sources of moisture and reasons why it builds up so that sweating does occur:

1. Vapor from cooking.
2. Moisture from breathing of occupants.
3. Moisture released to the air from growing plants in the room.
4. Open pans of water, particularly if they are placed in a warm location.
5. Poor ventilation, caused by tightly closed doors and windows, prevents replacement of moisture laden air escaping and being replaced by fresh, relatively dry air.

Your description of the walls enclosing the upper portion of the building and the upper apartments indicates these are of more typical construction and that there is an air space between the outer and inner walls. This construction reduces heat transfer and the inner walls are probably warmer and therefore condensation does not occur.—Ed.

MICHIGAN

I am planning on a propane transport truck which will run on propane gas.

Would you help me with information relating to the practical size of truck transports. By that I mean how large is the largest practical

job, a possible 10,000 gallon job?

How long a haul would be feasible, say 2000 miles round trip. Maximum 1500 miles one way.

R.E.G.

We do not believe a truck or even a truck and trailer transport of 10,000 gallon propane capacity is feasible.

It is doubtful if you could compete with railroads on hauls of 1000 miles. In the West where there are few towns along the highways and good time can be made, hauls over 500 miles are relatively few. The tare weight of truck and tank is large in comparison to the payload, and the payload is carried in only one direction.

Since you are planning to operate across state boundaries, your equipment will be required to meet the regulations of the Interstate Commerce Commission. Your truck and tank will also be required to comply with the motor vehicle laws of each state in which you operate and also meet the codes set up for the handling and transportation of propane and butane.

It will be necessary for you to obtain the motor vehicle department regulations and the liquefied petroleum gas codes from each state in which you plan to operate before complete details can be determined for an operation such as you are considering.—Ed.

WASHINGTON

We have been invited to bid on the job of cooking garbage for hog feed and since our experience along this line has been limited, we are forwarding our questions to you.

The rancher involved is feeding about 5500 hogs and is gathering garbage from three small towns and one large city and wants to vat-cook it with propane in thousand gallon batches. Each batch would have to be heated to 212° as rapidly as possible and held at that temperature for about a half hour.

He is asking for the cost of operation per batch, and we would like to have information on the length of the heat-up time, also the approximate Btu input necessary under a 12 x 4 x 4 foot vat for rapid heat-up.

Also if you know of a better way than vat cooking to do this job, we would appreciate having your recommendations.

E.U.

We recommend that immersion tubes with proportional-mix or high pressure atmospheric burners be used for heating and cooking the garbage. This

method would provide maximum efficiency and speed for heating and cooking the batch.

Assume temperature of materials entering vat is 50°F
 Temperature at the end of cooking period 212°F
 Temperature rise 162°F
 Volume of vat = $12' \times 4' \times 3\frac{1}{2}'$ (fill to within 6" top) 168 cu. ft.
 Deduction in volume for immersion tubes 20 cu. ft.
 Net volume of batch 148 cu. ft.
 Wt. per cu. ft. of batch 62 lb.
 Total weight of batch 9200 lbs.
 Assume specific heat of water & garbage mixture—.90 Heat required to raise temp. of 1 lb. from 162°F = $162 \times .90 = 145.8$ Btu/lb.
 Total heat required to raise temp. of batch to 212°F = $9200 \times 145.8 = 1,340,000$ Btu.

Estimated radiation losses from bottom, ends and sides with 1-in. rock wool insulation = 25,000 Btu/hr.

Estimated evaporative losses from top (top covered with sheet metal lid, covered with 1-in. rock wool insulation) = 30,000 Btu/hr.

Heat loss due to radiation and evaporation per hour = 55,000 Btu/hr.

Two 8-in. "U" bend immersion tubes with 6-ft. stock would have a heat transfer capacity of about 400,000 Btu per hour each at 77% efficiency when using pressure-type proportional mix burners or high pressure atmospheric type burners. This would deliver a net of about 606,000 Btu's per hour to the batch. Allowing for radiation and evaporation losses, the batch could be brought to the boiling temperature in about two hours and twenty minutes.

If greater speed were desired, the vat could be built about one foot wider—install three 8-in. "U" tubes.

This would increase the volume of the batch about 32 cu. ft. and shorten the time per batch to a little less than two hours from start of heating period until reaching the boiling temperature.

It will require approximately 23 gals. per batch if two immersion tubes and the smaller tank are used, and 29 gal. per batch if three tubes and the larger tank are used.—Ed.

MINNESOTA

We have in our territory a large engine which the party wishes to change over to propane. It is now burning diesel fuel. Following is the information on this engine: McIntosh & Seymour Corp. Type 4B34 Engine No. 2039 H.P.. 400 R.P.M. 200.

Is it possible to change this engine over to burn propane and what would you estimate the cost would be.

V.A.B.

We have very little information about the conversion of engines such as the McIntosh & Seymour

diesel, although the conversion of smaller diesels is coming to be rather common.

We do have information on a "dual fuel" engine which was made to burn gas as the main fuel, using a pilot charge of diesel oil to provide ignition for the gas. It is possible that the McIntosh & Seymour engine could be altered to operate in that same fashion. If so, this would save quite a bit of cost in making the conversion as the carburetion and ignition equipment for the conventional type of conversion, plus the new heads which would undoubtedly be needed, would run into a lot of money.

We believe that it is just as practical to operate such an engine on propane as on natural gas.

It is possible that the McIntosh & Seymour Corp. has already developed a conversion for the engine in question. We would suggest that you inquire.

Concerning the cost of conversion, it depends on how much engineering work is necessary and how much engine equipment needs to be replaced.—Ed.

FLORIDA

We would appreciate your answers to the following questions concerning butane and propane gases.

1. Does either butane or propane have more sulphur or oil or residue of any kind than the other?

2. When an appliance burning either gas is adjusted correctly is there any reason why either should smoke or create any dirt in the home?

3. Will either of the above gases create more moisture than the other when used for heating, either with vented or unvented heaters?

W.R.L.

1. The amount of sulphur, oil, or any other residue remaining in either butane or propane depends entirely upon the completeness of the refining process by which they are recovered. Butane and propane are hydrocarbons which have distinct chemical and physical properties and there is no reason why one should have any more impurities than the other.

2. When an appliance is properly designed and adjusted to suit the fuel which it is intended to burn, it should not produce dirt or smoke providing it is kept clean and it has an adequate supply of air. Occasionally the walls above a floor or wall furnace, or those in a kitchen, will become streaked or dirtied. This is usually caused by cooking fumes or by circulation of dust and dirt in the air of the room.

3. There is a slightly higher percentage of moisture in the products of combustion of propane than in those of butane. The amount of moisture which is released in the burning of a given quantity of fuel is the same whether it is burned in a vented or unvented heater. The moisture which is released by an unvented heater enters the room where the heater is used, and the moisture produced by a vented heater escapes through the vent.—Ed.



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LP-Gas Producers' Program

Comment

INTERESTING figures are contained in a recently published report of the U. S. Department of Agriculture which covers the farm consumption of liquefied petroleum

gas in this country for the year 1949.

Possibly most revealing is the relationship of price to marketed fuel volume. With minor exceptions, the most gas is sold in areas where the

Table 1. FARM CONSUMPTION OF LIQUEFIED PETROLEUM GASES . . . 1949

(U. S. Dept. of Agriculture, July 1951)

State, or State Group	LP-Gas Used on Farms (Gallons)	Percent of Total Farms Using LP-Gas	Gallons per Farm User	Cost per Gallon
TEXAS	132,250,000	45%	886	9.5
CALIFORNIA	63,500,000	39%	1,188	15.0
OKLAHOMA	36,950,000	40%	649	10.0
KANSAS	34,200,000	34%	766	12.0
Mountain States—				
Mont., Idaho,				
Wyo., Nevada,	33,700,000	25%	681	15.4
Utah, Colo.,				
Ariz., N. Mex.				
MISSOURI	20,500,000	24%	370	15.5
Southeastern				
States	19,950,000	10%	329	15.9
ARKANSAS	19,300,000	20%	529	12.0
LOUISIANA	18,650,000	38%	395	13.5
Appalachian				
States	18,200,000	9%	206	25.9
Lake States	18,000,000	28%	129	33.0
MISSISSIPPI	17,850,000	18%	394	13.5
NEBRASKA	16,000,000	32%	466	16.0
IOWA	11,525,000	41%	138	30.5
Northeast States	10,900,000	19%	128	41.1
SOUTH DAKOTA	9,050,000	48%	284	20.0
ILLINOIS	7,575,000	30%	129	31.5
NORTH DAKOTA	5,650,000	42%	206	26.5
OHIO	4,375,000	16%	137	36.5
INDIANA	3,875,000	23%	101	34.5
WASHINGTON	3,650,000	12%	434	26.5
OREGON	2,900,000	9%	541	21.0

consumer price is lowest. Texas heads the group in this category, that state accounting for 132,250,000 gals. of fuel at an average price of 9.5c per gal.

Compare this with the estimate of 10,900,000 gals. for the entire Northeastern area, selling at the average price of 41.1c per gal.

The complete survey is shown in Table 1.

These figures open up the old question of whether it's better to sell small volume at high prices or large volume at low prices.

From the standpoint of industry advancement, the large volume is particularly desirable for it infers that the fuel is being utilized in more applications. Hence, competitive fuels are kept from establishing firmer footholds and the prestige of gas goes up.

Farms are awakening to the importance of butane and propane as fuels for power in tractors and dehydration equipment, for dairy uses, water pumping, and all domestic needs. It represents a tremendous, present load and a potential of mammoth proportions. Dealers who have the vision to capitalize upon this field will become the big operators.

Where farm usage is more limited by climatic and physical characteristics of the locality, there is always the water heating, refrigeration and house heating load (in addition to commercial and industrial applications) that can be added to the requirements for the gas range, so volume-minded dealers need never be at a loss to find sales avenues that will build bigger and better returns.

Domestic gas range shipments during the first six months of this year totaled 1,315,400 units, according to Edward R. Martin, director of marketing and statistics for the Gas Appliance Manufacturers Association.

This total was 1.6% lower than the shipments of 1,336,900 units in the first six months of 1950. During June, shipments totaled 113,300.

According to the National Fire Protection Assn., more fires (16%) result from careless handling of matches and cigarettes than from any other cause. Smoking and matches caused 95,000 fires in 1949 with a total loss of \$55,500,000.

Restaurateurs were impressed at their national convention held in Chicago to find that the same infra-red lamps that the doctor employs to bake out sore muscles and stiff backs can be adapted to commercial cooking.

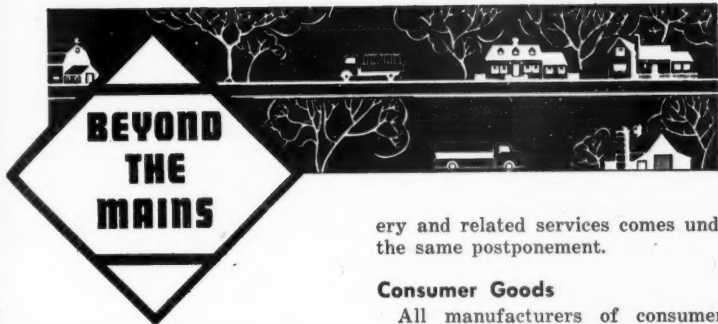
Somehow, this doesn't frighten us from a competitive angle, but if the restaurant owners are happy with the idea, they are free to experiment.

As a matter of fact, if the Kilowatt Brotherhood gets around to manufacturing back-baking lamps gone gastronomic, we may have to point out that we have an infra-red burner, too. And it will probably do the job better, quicker and more economically—as usual.

A billion pounds, or 500 thousand tons of American rubber has been produced at the government's Port Neches, Texas, synthetic rubber plant in the past eight years.

The plant, with rated capacity of 60,000 long tons per year, produced its first pound of rubber Aug. 19, 1943. It continued in production after the war when most other government plants were put on a standby basis.

The LP-Gas industry played its part in production. Butadiene, one of the family of hydro-carbons which includes butane and propane as we know it commercially, is also one of the principal products used in processing synthetic rubber.



Alton Lutz, LPG Authority, Gets Government Appointment

The Petroleum Administration for Defense has announced the appointment of Alton S. Lutz as assistant to the director of natural gas production and processing. In this position he will be in charge of all LP-Gas matters coming under the jurisdiction of this division.

Mr. Lutz, formerly associated with the Protane Corp., Erie, Pa., has a long background of experience in the butane-propane industry and should give this industry excellent representation on the PAD.

Down Payments Now 15%

Appliance sales can now be made with a down payment of but 15% of purchase price instead of the 25% originally ordered by the Federal Reserve Board.

Also, the 15-month payment period has been extended to 18 months.

Price Regulations Postponed

Effective dates and compulsory filing and reporting provisions of CPR-22 have been postponed indefinitely, according to the OPS.

This is the manufacturers' pricing regulation. CPR-30 covering machin-

ery and related services comes under the same postponement.

Consumer Goods

All manufacturers of consumers' goods will be brought under the ACPM plan for controlled materials on Oct. 1, according to an announcement of the National Production Authority.

M-4 Revoked

The original NPA construction order, M-4, has been revoked.

Building restrictions are now covered in M-4A and include construction of stores or display rooms.

Bulk plant construction still comes under Regulation M46B.

Home Improvement Loans

Home improvement loans can now be paid off in from 30 to 36 months. The down payment of 10% remains the same.

Helping the Farmer

NPA Regulation 4 provided that a dealer, acting for a farmer customer, could apply a DO-97 rating to obtain a storage tank or system for fuel for his farm equipment. This is now superseded by CMP Regulation 5, containing the same authorization subject to quota and price limitations set out before. The symbol is now "DOMRO Certified under CMP Regulation No. 5."

CMP 5 also permits operators who lease consumer systems under an agreement to maintain and repair them. The above symbol can also be used to obtain material needed for such maintenance and repair subject to the quarterly quota limitation or \$1000 regardless of quota.

Confusion At Home, Too

If LP-Gas dealers and appliance retailers think they have been confused by an unpredictable market in the past year they will find a friend in "Joe Blotz." That is the name J. M. Phillips, of the Geo. D. Roper Corp., has given a certain merchandise manager whose series of telegrams at least illustrate his reaction to the market situation.

Nothing has been altered in content excepting the name of the writer. Mr. Phillips injected the short but graphic story as a humorous addition to a speech which dealt with the merchandising problems of the industry at a conference of the Arkansas Butane Dealers Assn. in Little Rock. The correspondence was as follows:

March 1, 1950

Hold up all deliveries.

Joseph Blotz

April 1, 1950

Cancel everything.

Blotz

May 1, 1950

Confirm cancellation immediately.

Blotz

July 1, 1950

On May we asked for confirmation on cancellation. This telegram a bookkeeping error. Kindly reinstate May order.

Joe

Sept. 1, 1950

In bad way for material. Anything you can do will be much appreciated as in the past. Please wire deliveries collect.

Your best friend
Joe

Oct. 1, 1950

Many, many thanks for the shipment. Can't tell you my gratitude, but knew you would come through for me. If you can squeeze out a few more, I'll never forget it.

Regards to all the family
Joe

Nov. 1, 1950

Surely need anything. In terrible shape on all models. Job is at stake. Help me!

Joe

Dec. 1, 1950

It's awful. All branches will have to close four days before Christmas. The boss is tearing my hair out. Please, please ship anything. Fast!!!

Your Little Joe

P.S. You coughed over the phone yesterday—better see a doctor.

Jan. 1, 1951

Please!!!!

Joe

March 1, 1950

CANCEL EVERYTHING!!!

Joe

Dealers operating in fringe areas should encourage the good will and cooperation of gas utilities. It is to the advantage of the natural gas man when LP-Gas appliances go into a fringe area home. It freezes out other fuels, making the eventual extension of the mains, possibly years hence, a natural process in the public service.

When this good will has been established, when the gas company manager is sold on the logic of the idea, he can help boost the LP-Gas dealer's product. He can advise the consumer of the saving it will mean when the gas mains eventually come their way and of the advantage of appliances which can be converted at that time. With mutual understanding the way is cleared for co-sponsorship of cooking classes for natural gas consumers, with a division for prospects beyond the mains.

HEATING INSTALLATIONS



Custom Tailored

WHEN a motel owner in Springfield, Mo., recently decided on an LP-Gas heating installation for a new 8-unit addition, he naturally dropped it in the lap of the Economy Gas Co. in Springfield, a company that has a region-wide reputation for custom-made heating jobs.

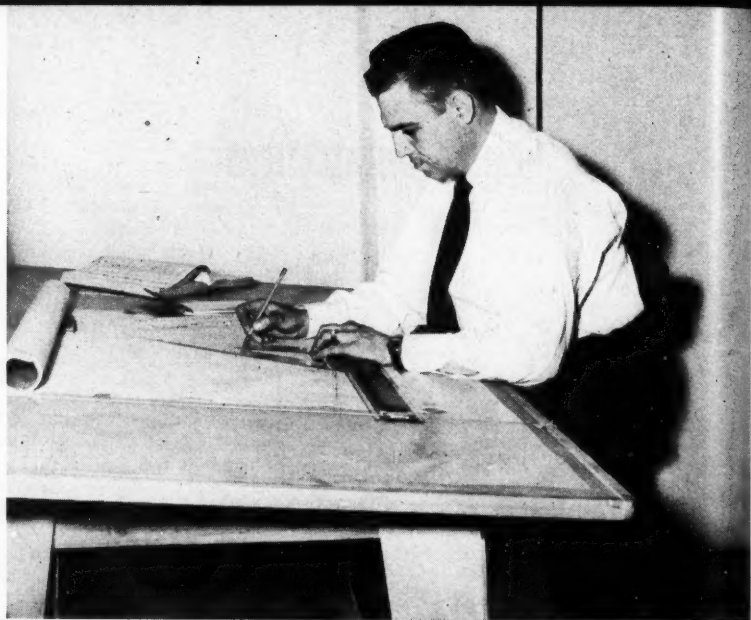
As is the practice of this firm, L. C. Fritts, co-owner with Paul Anderson, went into a huddle with the tourist court operator, who outlined his requirements. Within a few days the operator received complete, meticulous blue prints showing every detail of the installation, plus several "extras" evolved by Mr. Fritts.

The process of integrating installations with sales has been well

worked out by Economy Gas. The motel heating job demonstrates the smooth meshing, methodical approach of the firm to installations.

"One objection to tourist courts," said Mr. Fritts, "arises in the Spring and Fall, when it isn't cold enough to justify heating the entire layout; it is the uncomfortable sensation guests receive when they step from the bathtub or shower onto a chilly tile floor. We eliminated this bad feature with an arrangement which involves the use of continuously circulating hot

By Grier Lowry



L. C. Fritts, co-owner of Economy Gas, Springfield, Mo., draws meticulous plans for heating installations. All the customer's ideas, plus a few tossed in by Fritts, are included.

water beneath the bathroom floor. Controlled by an outside thermostat, a drop of the temperature to 70° is the signal that starts the boiler into action, pumping a flow of hot water into pipes under the flooring.

"The eight bathrooms in the court are now heated quickly and comfortably through convectors. The entire setup is serviced from a 1000-gal. butane tank by an A. O. Smith boiler with a 190,000 Btu output."

Because he formerly operated his own air conditioning and heating company, Mr. Fritts displays keen interest in LP-Gas hot water

installations. Contributing to his success in selling this equipment are deft, sharply-detailed blue prints which are submitted to prospects and later serve as the actual working plans.

Occasionally a prospect calls off the deal after hours have been spent drafting painstaking sketches, but the work easily pays for itself, says Mr. Fritts, for the selling impact it exerts on the majority of prospective heating buyers.

Last year, Economy Gas made 30 hot water installations, running about 50-50 domestic and commercial. Although the jobs ran

from \$350 to \$400, Mr. Fritts and his staff convinced prospects the extra money is well spent in terms of cleanliness, compactness, and even distribution of heat.

"We guarantee our hot water boilers and convector setups," declared the dealer, "to maintain heat according to engineering standards. We do it right the first time, making thorough surveys to determine the Btu load, and thereby eliminating future service work."

Prompt, efficient service is a cardinal principle. Paul Anderson calls the signals on service and installations, L. C. Fritts master-

minds promotions, sales and blue prints.

Service equipment includes two pick-up trucks with service bodies, specially-designed racks and bins for parts and tools, and two flat-bed installation trucks, with special racks for pipes, vises, brass fittings, etc.

"We pride ourselves on our territory-wide service reputation and use it as a selling tool," Mr. Anderson said.

"Keystone of our service department is the personnel," he added. "To the customer, the business with which he deals is usually personified in terms of the individual con-



Paul Anderson, co-owner, emphasizes courtesy in customer relations, teaches his men to explain in simple language the functions of the equipment serviced.



Plenty of space for stock-piling storage tanks is available back of the retail store.



Service and supply equipment includes two pick-up service trucks, two installation trucks, and four tank trucks.

tacts he makes with the personnel. Our servicemen are our day in and day out link with customers. We train them to cement good relations.

Briefing the Customer

"We not only want them to be friendly, but to explain in layman's lingo the repair work he is doing and why he is doing it. If he is discussing the operation of a thermostatic control on a heater with a customer, he is briefed to talk about the function of the safety cut-off valve, or what happens to the pilot light control under given conditions.

"We want him to lay stress on all safety devices because it is a company policy that every piece of equipment has plenty of shut-off cocks. A range, water heater or furnace must have independent shut-off units ahead of it.

"Our men receive special training in control work. In cases of defects in general low-voltage controls, they know that contact points must be cleaned and soldered. They are familiar with the make-up and function of all commonly used magnetic valves."

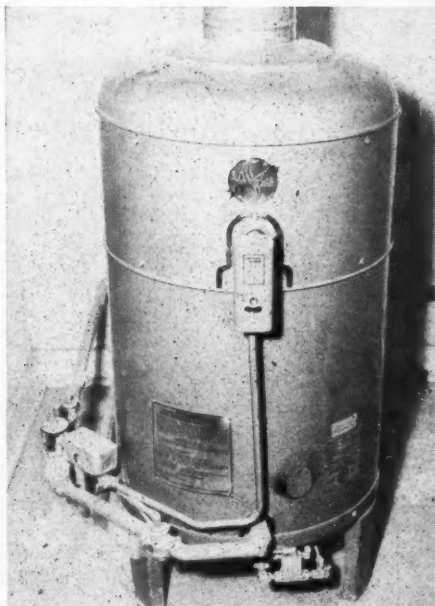
Handling Freeze-ups

Demonstrating the lengths to which the company goes in developing service to a fine point is their handling of freeze-ups. Until a year ago, the commonplace procedure of carrying alcohol for freeze-ups on tank wagons was used. But this required employing the heavy trucks for this duty when they should be on route service.

A compact container, equipped with a pressure equalizing device, which could be fitted conveniently on the pick-up service trucks was the solution, Fritts and Anderson decided. This idea, according to the owners, has saved the company at least \$1000 since last fall.

The system works like this: A Rego unloading adapter is used to open the filler valve on the tank

The specialty of the southwest Missouri firm is heating installations. This one is installed in the New Haven tourist court, Springfield, and has a 194,000-Btu input. Preliminary work on heating installations involves exact scale blue prints.



which is connected to the container. Pressure in the container is equalized by a hose connection between the container and the vapor return valve on the tank. Gravity causes alcohol to flow into the tank.

"Of course, we try to get alcohol in the tanks before freezing weather," Mr. Fritts said, "but in cases where we don't, this method is certainly an ideal substitute."

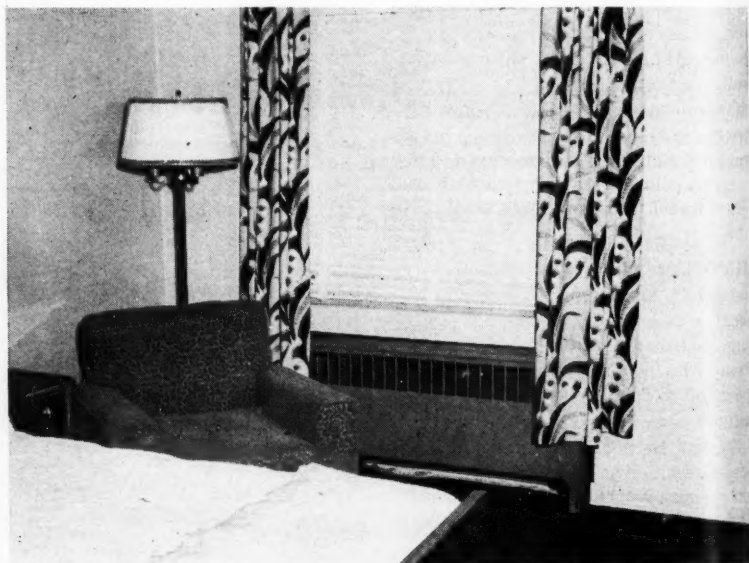
An attractive showroom, with planned displays, these dealers believe, sells merchandise faster and more efficiently than a score of salesmen. The location in a com-

plete suburban shopping district is on a well-traversed highway. The building has a 10-ft. glass front, brilliantly lighted at night. The range lights are also turned on.

The showroom usually contains 20 Tappan models in a No. 1 spot. The range inventory runs the gamut from apartment-size to deluxe, completely automatic models. Circulating heaters, blower furnaces, Servel refrigerators, and floor furnaces receive prominent display attention.

In the rear is a commodious stockroom housing a \$10,000 parts inventory.

Heating installations compose a tidy portion of Economy's volume of business. Illustrated is a recent installation in a modern motel. The system is serviced from a 1000-gal. butane tank by an A. O. Smith boiler.



"We trimmed expenses and stepped up efficiency in our service department," Mr. Fritts disclosed, "when we built our parts stock to the point where we rarely have to take the time to make a trip to the wholesalers to pick up an item."

The 50,000-gal. bulk plant, equipped with bottle-filling equipment, is three-quarters of a mile from the retail base. Back of the retail building is a spacious warehouse. The company's four tank trucks include three single barrel, 1250-water gal. trucks, and one double-barrel, 1750-gal. truck.

Tanks, from 115-gal. to multiple-thousand gal. units are distributed among a patronage which is concentrated within a 35-mile radius of Springfield.

Because of its personal appeal, the dealers feel that radio transcends other media in ultimate results although the 1% of gross sales allocated for advertising purposes includes direct mail and regular newspaper ads.

Radio Weather Forecasts

Said Mr. Fritts: "We spent \$1500 last year on radio advertising, and are presently using two local stations. We sponsor a singing weather forecast on one station—the weather is always important to farmers—and three spot announcements daily on the other."

"Copy in promotions is centered on outstanding features of the products," he says. "We talk about chrome ovens, automatic ranges, porcelain finishes. But we also use



Motorists on a leading traffic artery have a good view of the merchandise displayed in this 30x75 ft. Economy Gas Co. store.

radio to boost gas volume. We lay stress on our dependable record as a year-round source of supply. We encourage people, via radio, to buy larger tanks in order to stock enough gas to carry them through the winter months."

An Addressograph was recently added to office equipment. It handles 2000 names on the firm's Farm Directory, Penny postcards advise customers to buy gas through the summer to offset possible winter shortages, and warn them to steer clear of cut-rate peddlers who may leave them high and dry in the winter.

"We tell them," said Mr. Fritts, "that we offer year-round gas supply to regular customers only and that we are unable to offer winter service to those who buy from cut-rate's other months of the year."

Sell Gas Heat on Its Merits Against Any Competition

MORE and more LP-Gas dealers, interested in load building and the profit of increased fuel sales, have been investigating in their respective territories the possibilities of developing a sound market for LP-Gas for heating. Appliances such as floor furnaces, circulators, or hot water, warm air, and steam furnaces using LP-gas have figured heavily in the pioneering picture.

Many of the difficulties which stem from the cold plunge into a relatively new field can be traced to improper sales approaches, incorrect estimates by company salesmen, improper sizing of the



**Sell automatic control convenience.
Emphasize cleanliness of fuel.
Demonstrate quick heat.
Explain flexibility, adaptability.
Point out silent operation.
Push healthful heat uniformity.
Underscore trouble-free operation.
Emphasize low maintenance costs.
Note minimum depreciation.
Point out odorless burning.
Stress AGA approval.
Call attention to appliance styling.**

By Fred J. Liederbach, Jr.*

job at hand, faulty installation and service work, or lack of efficient office and accounting procedures.

The effort is made here to present some basic information relative to sales approach, sales tools, equipment, and methods of conducting a complete and accurate estimating survey.

It is not intended to cover all the factors involved. Dealers and salesmen interested in studying the highly technical and involved aspects of heating and estimating should obtain informative literature such as the American Gas Assn.'s "Comfort Heating Handbook," written in understandable fashion, which may be obtained from the American Society of Heating, Ventilating and Air Conditioning Engineers.

Many successful dealers have confined their heating sales activities to customers with light-duty requirements. This practice has permitted customer billing on an appliance, or multi-appliance, rate.

Other companies, seeking higher volume loads through full-scale

*Sales engineer, formerly with Suburban Propane Gas Corp., Reisterstown, Maryland.

DON'T

Don't risk fuel's reputation in poorly insulated houses.

Don't sell where a customer can't see that his savings in maintenance, labor and replacement offset a higher fuel cost.

Don't oversell customers.

Don't accept poor risk accounts.

Don't make hit-or-miss estimates.

Don't knock natural gas—its reputation is valuable to you.

Don't sell on price, alone—sell on product's merits.

Don't try to sell others 'til you sell yourself.

domestic and commercial heating, have found it necessary to sell fuel at special low rates in order to compete with oil and coal.

In the first case, "low volume, high profit" dealers build their heating load by serving customers of the "Mrs. Jones" type, who has a non-gas central house heating plant that performs the major share of heating work. Mrs. Jones has one room she wants to have the chill taken off—and the dealer sells her a small floor furnace or console heater.

In such cases it doesn't require a great deal of estimating to provide a heater—but occasionally a dealer has wound up supplying a unit with three to four times the output required "to take the chill off." This practice is unnecessary and does not conform to standard estimating procedures.

As customer demand for space and house heating increases, the dealer finds that he must eliminate guesswork or there will be an accumulation of errors. Through proper space measurements, calculated estimates of heat loss in conformity with survey methods, estimates of heating costs based upon calculated seasonal fuel requirements, and the provision for heating appliances of the proper capacity, well installed and serviced, the dealer will enjoy an increase in the number of satisfied customers and keep his subsequent service calls to a minimum.

One Sale Brings Another

Dealers who cannot encourage "large-volume, low cost" operations within a given territory can, however, get their foot in the door and keep it there with the sale of space and water heating appliances.

There isn't an appliance in the field that can compete with LP-Gas water heaters. Operating on the principle that "gas sales beget gas sales," the dealer who provides specialized space heating services and answers the demand for water heating will see his volume grow to the point where he can lower fuel rates and compete for central or packaged heating sales.

The heaviest competitors for the house heating load are oil and coal. Experts are agreed that electric utilities will never be able to deliver their power at a low enough cost to compete in this field.

LP-Gas dealers operating in fringe areas sometimes make the mistake of considering natural gas

a competitor. Those who "talk-down" natural and manufactured gases are undermining their own fuel. The advantages and applications of LP-Gas and natural gas are the same. The reputation of natural gas is a valuable weapon for use in competitive battles with oil and coal.

Emphasize Gas Advantage

When the LP-Gas dealer faces price competition from other fuels that he can't meet in the immediate future, he must point out the innumerable advantages he can offer in the heating field.

He must persuade his prospect that the maximum comfort, health, cleanliness and automatic features provided by LP-Gas heat justify the somewhat higher cost. Although the more efficient combustion characteristics of LP-Gas, when compared with other fuels, may modify downward the pound cost of LP-Gas, the salesman should not base his arguments upon a technical discourse of the amount of unburned Btu's left in a gallon of oil. No matter how accurate he may be, this approach seldom makes a domestic sale on its own merits.

Instead, fill in an analysis sheet of the customer's needs and stress the fact that the fuel oil or coal customer will be required to agree to binding delivery contracts, foot the repair bills for mechanical failures, burner cleaning and adjusting, unplugging of flues and, in

addition, will have to put up with soot, stain and fire hazard.

Avoid openly knocking competitors' products, but take every opportunity to compare with secondary fuel appliances the automatic convenience, cleanliness, quick heat, flexibility, silent operation, heat uniformity, trouble-free and safe operation, low maintenance costs, minimum depreciation, the lack of odor and smoke and the appearance of LP-Gas-fired heaters.

Use tact and diplomacy in your comparisons. Simply place your own product alongside that of your competitor, in the mind of the customer, and let him judge its merits, point by point. Manufacturers' literature will be of value in your sales presentation. It offers a pictorial approach for your comparisons. But keep in mind the fact that Mrs. Consumer buys automatic conveniences, cleanliness and styling—and her husband buys safety, dependability and low maintenance costs.

AGA Approval Means Sales

Remember, if your oil and coal competitors were selling heating appliances that had the advantages of LP-Gas units they'd be the happiest men in the world. They would love to brag about the AGA Seal of Approval that is stamped upon most gas appliances. You can do this, and should never lose a chance to capitalize upon it.

If you're sold yourself—you're ready to sell the customer.

Tell 'em

Show 'em

Check 'em

★ Basic Steps in Training an Employee

By **BILL N. NEWMAN**

Director, Fort Worth Retail Institute and
President, Fort Worth Retail Personnel Assn.



AN LP-Gas dealer told all of his salesmen to figure heavier on piping; they had not been charging enough for it. Yet, of the next five orders for systems three were money losers on the piping. The salesmen were told what to do, but in most instances they failed to do it. Why?

A serviceman had made three calls to adjust a water heater his company had sold. On the fourth call he confessed to Mrs. Customer that he never did like that make of water heater—it always gave trouble. Mrs. Customer then insisted that the company take the water heater back so she could buy a good one from someone else.

"Even your own man admits it's no good," she said. That serviceman had been told never to speak unfavorably about the appliances his company sells, yet in this case he did. Why did he do it?

A dealer told all of his workers to refrain from drinking during a work day. The following week he happened by the Cowgirl Cafe,

Mr. Newman presented the course on "How to Conduct Employee Meetings" at the Texas Butane Dealers' Management Institute in 1950, and again in 1951. He is an authority upon this subject.—Editor.

where one of his installation crews was having lunch. He was shocked to note that the lunch consisted of beer, sandwiches, and more beer. The men had been told not to drink, yet here they were drinking. Why?

Lack Of Training

The foregoing situations can be easily explained—a lack of training. Nearly all shortcomings of employes can be attributed to the fact that the employees are not trained. Too often a group of workers is told what to do but not trained to do it.

The purpose of this article is to improve the training skill of the dealers, managers, and other supervisors who read it. You see, management has only two major functions: to direct things and to develop workers. Many dealers spend too much time on the former and fail to develop their workers. Have you ever heard someone say, "I'd rather do it myself than have to show him how"? That is because the person speaking was not skilled in training. Take our word for it, training is worth trying.

Give Individual Training

General information can be imparted at group meetings. Also, group meetings are excellent opportunities for inspiring salesmen. The most effective training, however, can be done while working with only one or two employees. While working with only one employe at a time you can check for understanding, being sure that the worker knows how the job should be done and why it should be done that particular way. What is most

important, you can be sure he is able to perform or actually perform the operation you have attempted to teach. Therefore, this discussion will deal with how to train an individual employe rather than the techniques of group training.

Regardless of what you try to teach an employe there is a pattern to follow. You can use an established and sound procedure whether you are trying to:

1. Teach a manipulative task, such as how to cut and thread pipe.
2. Develop an attitude, such as courtesy to the customer.
3. Impart information, such as the selling points of a new line of ranges.

Four Basic Steps

There are four basic steps to follow in training an individual worker. The first step is to *prepare the learner*. By that we mean get the employe ready to learn; get him receptive. Start out by putting the employe at ease, for if he is worried about something his mind cannot be devoted to your instructions. State specifically what you plan to teach him, then find out what he already knows about the job. Tell him that the task to be taught is not too difficult for him to master, as he will need this encouragement. Develop his interest by giving him the story behind the job if there is one; let him know the background of it and why he should learn it. Create a desire to learn by letting him know how he may benefit from learning it. The fact that the employe is being paid to learn isn't enough; he must also want to learn.

Now you are ready for step two:

TRAINING SCHEDULE

	Manual Labor	Installation	Fuel Delivery	Service Calls	Selling Systems & Appliances	Bookkeeping	Stenography	Cooperation	Initiative	Customer Courtesy
Jim Blanding		G	F	G				G	F	G
Red Williams		F	P	G				F	F	F
Carl Clovis		F	G	G	F			G	G	F
Ed Dexter			G	G	F			P	F	G
John Clark	F	F						F	F	P
Tom Ridings	G	F						G	G	G
Joe Withers		G	G	G	F			G	F	G
Bill Owens					G			G	F	G
Flasco Moore					G			G	G	G
Ruth Ewing					F	P	G	G	G	F
Mary Rhine					P	G	F	F	F	G

Key:

G - good performance; F - fair performance; P - poor performance

Leave space blank if employe cannot do job or does not need to know job

Present the material to be learned. The job must be taught one step at a time, clearly, patiently, and in correct learning sequence. Key points should be stressed, but let's be careful to present no more than the worker can absorb. A person can consume 21 meals in a week's time but could hardly consume them at one sitting. So it is with information to be taught—offer it in bite-size doses. Both tell and show how the new job is to be done.

As in selling, a presentation without a demonstration is ineffective.

To observe the third basic step of training you should have the learner *try out under supervision*. Most trainers fall down here; they don't take the time to see if the employe can apply the material that has been taught. Make him perform, while you question him as to what, why, and how things are done. In this practice period his mistakes must be corrected so

that he will not learn the wrong way. Have him continue until you know that he knows the correct procedure.

Next comes step four, *check on learning*. Put the worker on his own as soon as possible, for information taught is remembered longer if used immediately by the

learner. Look in on the worker again soon to correct errors and reteach. The coaching is ultimately tapered off until it becomes normal supervision.

Just one thing more—let him know to whom to go for help. A shy employee will waste an hour before mustering enough courage

JOB BREAK-DOWN	
Name of job to be taught: How to answer company telephone	
What to do	How and why to do it
Identify yourself	Acme Butane, Miss Jones speaking This is business-like and time saving
Speak to the caller - not at the telephone	Keep mouth $\frac{1}{2}$ " from transmitter Speak in normal tones Try to visualize the caller
Be courteous	Use name of caller in conversation; it makes him feel important Be attentive; discontinue all other work Apologize for delays and mistakes Say "thank you" and "you're welcome," etc.
End the call	Gracefully As if you enjoyed talking to the caller Be certain that the caller has nothing else to say Hang up gently

to seek help. Worse still, he might thoroughly botch things up rather than ask for assistance.

If this four-step method is followed, your training will bring best results. Morale will be higher, loyalty will be greater, there will be more cooperation among employees, fewer workers will quit their jobs, enthusiasm will be generated, efficiency will be greater, your work load will be lighter, customers will be better served, operating costs will be reduced, and profits will be greater. Is this sufficient reward for using the four basic steps?

Job Break-down

Hardly a person in the world will phone in a telegram to be sent without first writing down the message. Many people go grocery shopping only after having made a list of items to be purchased. Yet some supervisors try to teach employees how to use expensive equipment or how to handle valuable customers without first making notes on what they plan to cover in the training. Make a break-down of the job you plan to teach next.

A job break-down is a simple step-by-step statement of how the job is to be done; it's a note from yourself to yourself. It guides you through all points of importance in the correct order of instruction. A job break-down prevents those who "know the job too well" from overlooking vital points and precludes your trying to teach too much at once.

To make a job break-down, simply draw a line down the center of a piece of paper. On the left hand

side list all the things one must do in order to complete the task to be taught. After this "what to do" has been listed on the left hand side, record how and why to do these things on the right. Then review the job break-down before trying to train. As a result you'll be giving the worker a much clearer and more complete story of what he is to learn. For example, a dealer was dissatisfied with the way an office girl was receiving telephone calls. He kept telling her to improve her telephone etiquette and to be nicer to people who called, yet no improvement was shown. Finally, the dealer made a job break-down on the simple duty of answering the telephone (see illustration). He was then able to actually train the office girl. He was able to tell her much more than "you will have to improve" or "you will have to be nicer to people calling in."

A two-fisted LP-Gas dealer might feel that the preparation of a job break-down is too academic. Let me assure you that it is worth the trouble; without it you are almost certain to omit some of the points that should be covered. Never again should you have to say, "Oh, yes—there's one thing I forgot to tell you."

Training Schedule

There is another device to be used; it's called a training schedule. This schedule can be made by listing the names of your employees on the left hand side of a sheet of paper, then entering the names of the various jobs and responsibilities across the top of the sheet. The ability of each employee to per-

form certain tasks can then be indicated by placing a symbol to the right of his name and under the job concerned (see illustration). After symbols have been put in for all employes on all jobs, you have a training schedule that:

1. Shows who can do what.
2. Shows how well each worker can do each job.
3. Shows who needs training.
4. Shows what kind of training each worker needs.
5. Encourages planned training.
6. Is a guide to wider use of employes.
7. Is a time saving device in assigning rush jobs.
8. Helps you decide who should replace an employe who is sick, going on vacation, or who is leaving the firm for good.

Once you have prepared a training schedule you will wonder how you ever did without it. A word of caution, however. Do not let your workers see the training schedule.

Bolster Employee Morale

If an employe understands the symbols on the schedule and notices that you rated him inferior to a fellow worker regarding ability to perform certain tasks, his morale will suffer. The job break-down can be shown to an employe or even left with him as a guide, but the training schedule should remain in the possession of the trainer.

Additional pointers on how to instruct include relating the information being taught to something the worker already knows. This makes it easier for him. Repetition with variation drives home the

teaching points. Repeat major ideas, using different phraseology to avoid monotony.

Advise the employe of the progress he is making in learning anything, as it is encouraging to him. Teach only positive information. Tell the worker what he should do—not what he should not do. Except where there are serious consequences if a thing is done the wrong way, "Don't do this" and "Don't do that" are a waste of time and a burden to the worker.

Your employes will be no better than you make them. All of them need training, the new and the old. When a worker does not measure up to par, the dealer should blame himself. To complain about an inefficient employe is a mistake. Train him. Training is worth trying.

Old Stove Roundup Rallies Scheduled for Northwest

A band of crusading troubadours will invade Oregon and Washington in early September to enthuse Northwest gas dealers on the annual Old Stove Roundup campaign and pave the way for larger sales this fall.

Leaders of the band will be Pierre Vinet, Geo. D. Roper Corp.; Frank Seitz, Southern Counties Gas Co., Los Angeles; and Ben Marsh, West Coast secretary, LPGA. Their schedule provides for meetings with butane-propane dealers and utility salesmen as follows:

- Medford, Ore., Sept. 4.
- Portland, Ore., Sept. 5.
- Walla Walla, Wash., Sept. 6.
- Seattle, Wash., Sept. 7.

Supervising the program is Clifford Johnstone, managing director of the Pacific Coast Gas Assn.



Compressed Gas Assn.
UNDERGROUND SYSTEMS DIVISION

NBGA
LPGA

COLONEL MILLS— PIONEER ORGANIZER

ELLSWORTH L. MILLS, vice president of The Bastian-Blessing Co., Chicago, has been active in association work since 1927—first, in the Compressed Gas Assn., then in the National Bottled Gas Assn., and today, in the Liquefied Petroleum Gas Assn.

In December of 1937, Colonel Mills called a meeting of the Underground Systems Division of the National Bottled Gas Assn. at Dallas to get the

companies to work together, to present a solid front to governmental agencies and to secure a uniform set of safety rules and regulations.

This marked the beginning of organized efforts for safe, fair and workable rules and regulations on which the then little-understood LP-Gas industry depended for its survival.

The result was a decision for a strong affiliation with the NBGA and

a definite plan for its reorganization. Subsequently the name of the association was changed to the Liquefied Petroleum Gas Assn. and it became, in fact, the Voice of the Industry.

Commenting on this historic meeting, Colonel Mills said, "As I saw it, the only possible way we could obtain a voice of authority in the writing of the rules such as the National Board of Fire Underwriters' Pamphlet 58 . . . and similar laws, was not as a lot of individual companies working at cross purposes, but as a well organized association."

In his opening statement at Dallas he said, "We can only prosper in direct proportion to our appreciation of the need for safe, sound and fair practices." Today, his belief has not changed that this constitutes the basic platform for industry progress.

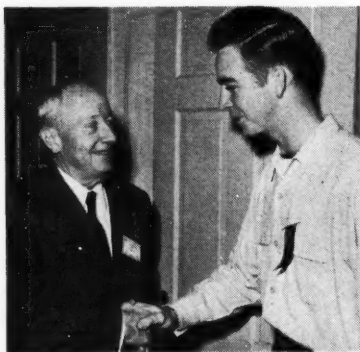
As is the case with all men who attain stature in an industry, the Colonel received nothing on a "silver platter." He completed grammar school in New York City and went to work in the engineering department

of the New York Central Railroad six and sometimes seven days a week. His ambition to become an engineer drove him to night high school for two years—five nights a week; to Cooper Union Institute for five years—five nights a week; and finally to receive his Bachelor of Science degree in 1910. As an indication of his persistence, these classes, starting with an enrollment of approximately 1000, seldom graduated more than 35.

Later he worked on the design and construction of Grand Central Station in New York, the elimination of grade crossings, and the electrification of suburban lines. His construction engineering experience continued with a four-year connection as consulting engineer for the New York City Subway commission; manager of a railway supply firm for a year; and two years as sales manager, Apparatus Division, Air Reduction Co., of New York. In 1920 he joined The Bastian-Blessing Co., in Chicago, with the title of sales manager, although he was the entire sales force as far as butane-propane equipment was concerned.

In 1927, when the LP-Gas industry was just beginning to make progress, George Oberfell and Ross Thomas, of Phillips Petroleum Co., pioneers in the then "bottled" gas business, called on the Colonel, then familiarly known as "Rego" Mills, from the name he had selected for his products, regarding the manufacture of some required LP-Gas equipment. Shortly thereafter, Emby Kaye, then with the Skelly Oil Co., another pioneer in the business, made a similar call.

These and similar experiences convinced the engineer-trained sales manager of the lack of available information on the characteristics of LP-Gas, its effect upon materials used in equipment manufacture, and the methods of promoting sales. He was convinced that this was an industry



Col. Ellsworth Mills congratulates Danle Goldson, who was awarded the "Who and What" (Bastian-Blessing house publication) 1950 scholarship for the Gas Fuel Technology course at Southern Tech.

with a great potential. He employed several engineers, enlisted the help of his long-time friend, A. N. Kerr, one of the pioneers of the business and still active in California, to compile technical, marketing and historical data, which he published under the title "Notes on Liquefied Petroleum Gas." This treatise, now out of print, is still of interest to the industry.

Results of Studies Issued

As a result of his early contacts and with the aid of those who were then "in the know" regarding LP-Gas characteristics, potential markets, and operation procedures, Colonel Mills prepared and distributed to key men in the industry the results of his inquiries and study. In fact, the "Rego LP-Gas Data Book" had its inception in those early days of his work in Chicago. This book, which is supplemented from time to time with new and vital technical, operational and marketing data, was, in the beginning, a gamble on his part that it would create confidence in the products of his firm, result in increased sales, and serve the industry as well.

Through all of Colonel Mills' 30-odd years with Bastian-Blessing and his 25 years of interest in and service to the LP-Gas industry, he has acted continuously either as an officer or on one or more national committees.

A current hobby, if such it may be called, is the enthusiastic sponsoring of the Gas Fuel Technology course at Southern Technical Institute, Chamberlayne, Ga. Colonel Mills and his company are providing scholarships and widely publicizing this 18-month course because of the need in the butane-propane industry for a continuing supply of highly trained men for supervisory and technical positions.

His service has been accompanied by the improvement of all the devices his firm manufactures, based on the

principles of "safe, sound and fair practices" he had outlined as a "must" for the industry in Dallas, in 1937. His firm's equipment is in use throughout the world wherever LP-Gas is available and Rego products are now being manufactured in England, Mexico, and Canada.

The Colonel's accomplishments mark him as one of the giants of the industry—a giant with an everlasting spirit of enthusiasm suggesting perpetual youth.

—Keith Clevenger

NFPA Makes Report On Warren Terminal Fire

Probable cause of the LP-Gas fire in July at Warren Petroleum Corp.'s Newark, N.J., terminal was a break in a pipe line or fitting, according to the preliminary report recently made by the National Fire Protection Assn.

In making its report on the fire that destroyed 70 30,000-gal. LP-Gas storage tanks, the NFPA said that a break in a pipe line as existed at the Warren plant could release large quantities of liquid propane before the flow could be stopped.

According to the NFPA, "ignition occurred at once, and from that time the progress in the fire was very rapid up to the point of the first tank rupture."

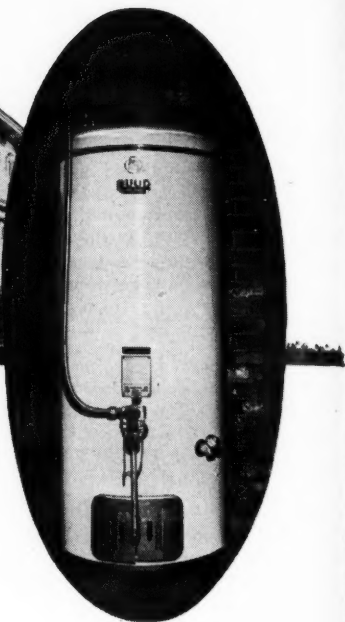
LPGA Washington Office Changes Address

Howard D. White, executive vice president of LPGA, announces that, after Sept. 1, he can be reached in Washington at the Willard hotel.

Original copies of mail should be addressed to the Chicago office at 11 So. La Salle St., and copies sent to the Willard.



Home of Nathan H. Delavan, of New York State who was hard to sell on gas until he tried electricity for water heating. His new Ruud at right.



It was

ELECTRICITY vs. GAS ***and Gas Won***

THE phrase, "I told you so," never was more appropriate than when a water heater customer in New York, after being oversold by an electric salesman in replacing his propane water heater with an electric one, re-ordered installation of the gas appliance.

The story is forcefully and amusingly told in the letter on the opposite page. It is the kind of letter that Atlantic States Gas Co., the Ruud Manufacturing Co.—and ev-

erybody else—likes to read to the very end.

Many a dealer will be able to use these facing pages to help show prospects the fallacy of trying to heat water economically and rapidly with electricity. And why should householders try to do so when butane and propane are available not only along the power lines but also in the far away places where no other modern fuel sources can be had?—Editor.

DEHAVANS

INCORPORATED

TELEPHONE
8-2583

Manufacturers of
CORRUGATED SHIPPING CONTAINERS

MILTON AVE. AT HINSDALE RD.
P.O. BOX 1138

SYRACUSE-1, N.Y.

October 23, 1950

Atlantic States Gas Co. of N.Y. Inc.
37 Port Watson Street
Cortland, New York

Attention: Mr. C. H. Coyle, Sales Manager

Gentlemen:

For several years preceding 1949 I was a customer of yours at my home in Skaneateles, New York, and immediately following the war purchased a 30-gallon Ruud gas-fired water heater from you.

This heater provided an ample supply of hot water for us, but due to the fact that we used Atlantic States gas only for water heating, I decided our bill for this service was entirely out of line.

In a none too friendly mood I called you one day and advised you that I was trading this gas water heater on a 52-gallon electric heater and would no longer use or need the Atlantic States gas installation at my home.

After listening to me, you advised against such a move, telling me that the heater I was buying would not, under the most favorable circumstances, provide sufficient hot water for our needs. I remember that you warned me specifically about the slow recovery of this electric heater and went so far as to tell me that should we use the relatively small amount of hot water stored in this tank it would be a matter of several hours before any additional hot water would be available. I thought that you didn't know what you were talking about and laughed at your warning.

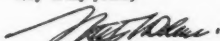
Your next remark I will never forget — as you said, "Mr. Delavan, just to prove to you that our statements are correct, we will leave our installation in place at your home so that when you come down to earth and decide that a gas-fired water heater is what you need it will not be difficult to complete a re-installation."

Some few weeks ago, Mr. Coyle, I called you on the telephone about this matter and your remark that day was "I have been expecting this call any time." Of course, you kidded me a little bit about the whole matter and I finally told you I had to learn the hard way.

The upshot of this whole matter is that I am now using one of your new Ruud Model M18-12 gas-fired water heaters, which I am glad to know has a "Performance Rating" of 90 gallons of 160° water in an hour, starting with a heater full of water, if our peak need should demand this much hot water.

We have had a constant supply of hot water available since we made this exchange of heaters, which is more than we can say regarding the electric heater previously installed, as several times we had the experience of "no hot water."

Very truly yours,



Nathan H. Delavan

**This letter is Exhibit "A" in the files of
the Atlantic States Gas Co. of N.Y. Inc.**

PRACTICAL MANAGEMENT OF AN LP-GAS BUSINESS

CHAPTER 6

1. **Should the Gas Dealer
Sell Competitive Appliances**
2. **Stocking the Showroom**

SHOULD the liquefied petroleum gas dealer sell appliances which use other fuels? I am often asked that question and my answer "No" is usually the cause of controversy. Some think that to be in the appliance business they must go "all over" into it, selling anything from gas lights to television. Others contend that there isn't enough gas appliance business in the territory which they serve to keep them in business. In a very few instances this possibly may be so, but they are the rare exceptions rather than the rule.

Let's get back to fundamentals. Back in Chapter I, I tried to make it clear that in order to be a success in this business you must believe that gas is the best of all fuels, and in other places I have repeated that appliances are a means to an end and not the end itself. Your aim in the gas business is to gain every possible gas customer.

In years to come it will be the gas stoves, gas water heaters, gas

By C. C. TURNER



Appliances are a means to an end.

refrigerators, gas heating units that will be making a good living for you. It won't be coal, oil, or electric appliances which you must keep on selling forever if you are to gain a living from them. It is the eventual profit from the fuel and not the immediate profit from the appliance that is going to provide security for you in your later years.

Take the coal or wood stove. You may not think of it as being competitive to your gas business, but its life is 15 or more years. Each time that you sell one you remove the likelihood of some family becoming a gas customer of yours for that length of time. When you sell an oil range, you're the fellow who is going to have all of the headaches of servicing it and the oil man is going to reap the profit of 2 cents or more per gallon on every bit of fuel that it uses. You've lost another good gas customer for several years to come.

If you sell an electric appliance you are really cutting off future fuel sales. Most electric companies are in competition with you in the

appliance business. The majority of electric appliance manufacturers belong to the National Electric Manufacturers Assn. and contribute to it. That association is sponsoring a campaign against liquefied petroleum gas dealers, and it gains a large part of the money used in this campaign from profits its members make on the electric appliances which appliance dealers, including gas appliance dealers, are selling for them.

But there are other reasons of greater moment why you cannot afford to fool around with coal, wood, oil and electric appliances. This gas business which you are entering is a full-time business. It is difficult for any person to keep up with the developments within it. Each day there are new gas appliances placed on the market, including new developments, refinements, and specification changes which are of vital interest to your customers.

Know Your Products

How often have I heard so-called gas men lamenting that there were no gas ranges with automatic oven lighting or automatic time control of the oven burners when such ranges are on the market and have been for some time! How can you hope to sell your own product if you do not know about it? And if you cannot keep abreast with developments pertaining to it, how can you hope to keep up also with what is going on in the oil and the electric appliance fields?

How convincing can you expect to be if you change like a chameleon, extolling the virtues of oil



If you sell an electrical appliance, you are cutting off future fuel sales.

to one customer, the advantages of gas to another, and the vaunted modernity of electricity to a third? Certainly this is not the way to build a reputation for sincerity and integrity and it places you in the category of being a jack-of-all-trades and good at none.

Furthermore, you are apt to try to sell to the same customer an oil range, a gas water heater, and an electric refrigerator. This division of fuels places the consumer in the high price brackets with all three appliances. Sooner or later he is going to discover this fact and switch his entire load to one of the three fuels. Because you have not properly and entirely sold him on gas as a fuel he is much more apt to listen to the blandishments of the "Reddy Kilowatt" boys and you will then have lost a good gas customer forever.

There are those who say, "If the customer is determined to buy an electric range I might as well make the profit on it." This is shortsighted reasoning. There is the pos-

sibility that Mrs. Housewife may eventually become fed up with service interruptions, lack of flexibility, and the many minor repairs which become necessary eventually on electric ranges. If you sold the range to her she is quite apt to feel that you sold her a "lemon" and she is going to look elsewhere for her new gas range. It is far better to forego the immediate sale and eventually procure her as a four-purpose customer.

Lest you lightly toss off this argument, consider your own attitude toward a political candidate who is a Republican today, a Democrat tomorrow and some kind of so-called "progressive" tomorrow. All parties have some good points in their favor, but I doubt if you would vote for such a candidate because you would never know where he stood on the fundamental issues.

Having decided to be a 100%, dyed-in-the-wool, gas appliance man, you are confronted by the problem of selecting some particu-

lar manufacturer's line of gas appliances.

Don't buy from every salesman that comes along just in order to be a good fellow. It is most important to first determine the quality of the line which you are buying, the responsibility of the manufacturer from whom you are buying, and his sales ethics. Some manufacturers will load you with their product and then go right across the street to your competitor and do the same thing. Before purchasing a nickel's worth from him you should have an understanding as to whether or not other appliance dealers in the territory which you are serving are to have his product to sell.

Usually the name of some particular manufacturer carries prestige in a locality, and if the quality of

his merchandise measures up to that prestige which he has earned previously then that is the line of appliances which you will wish to represent.

The nature of the community which you are serving has much to do with the line of appliances that will sell most readily in it. Old, conservative communities made up largely of skilled craftsmen or white-collared workers will prefer conservative appliances in which the simplicity of lines creates beauty and dignity. Factory communities or those in which there is a large foreign population prefer appliances which are heavily trimmed in chrome, large in size, have a lot of gadgets, and brightly colored enamels.

Trimming's do not affect the quality of an appliance but they often draw the attention from constructional deficiencies and defects. Some manufacturers offer good conservative models and also go after the flashier market by adding colors and trim to their basic line.

Dual oven or dual fuel ranges are the center of controversy in the gas business. Some operators contend that the gas suppliers should refuse to have anything to do with them, even to the point of not connecting to them. Others say that the public is going to buy them anyway, through furniture stores or mail order houses and that they might as well make the best of a bad situation. For this reason they select a dual fuel range that performs with some degree of satisfaction. I happen to live and oper-



Consider your own attitude toward a political candidate.

ate in a territory in which many appliance merchandisers are not connected with the gas business and who sell dual fuel ranges because of the greater profit that they make upon them. It is difficult for us to prevent our dealers from connecting to them inasmuch as we have never attempted to control their source of appliances.

Present the Facts

However, when we have been called in upon a sale it has not been too difficult in most instances for us to persuade the buyer to purchase a utility or bungalow type range in preference to the dual fuel range. We do it by laying the facts squarely before them. We call to the customer's attention that the dual range sells for more money, and that it is only logical that the dealer has tried to sell a dual range because of the greater profit that he makes upon it. We explain the difference between a gas oven and ovens which are heated by coal, oil, or wood.

Because of the basic difference we can truthfully tell them that it is absolutely impossible for any manufacturer to make a two-fuel oven that works equally well and efficiently on both fuels. Last of all, we produce records of comparable families who are using dual oven and utility type ranges. The figures prove without question that there is no saving in fuel cost by the dual range because of its greater heat losses when the oven is being used.

Our company has kept careful

service records over a period of three years. We have discovered from these records the following startling facts:

1. There are more than five times as many service calls on dual ranges.
2. The incidence of customer losses to electricity because of customer dissatisfaction is as 2.7 to 1.
3. In 64% of the cases reviewed the customer has burned as much gas in a dual range as he would have burned in a utility or a straight gas range.
4. In 29% of the remaining 36%, while the customer has used less gas in the dual range due to his use of the other-than-gas fuel, the gas that he has used has actually cost him more than it would have cost him to use a utility or straight gas range due to his smaller usage forcing him back into a higher price bracket!

Study of Table 6 brings out some other damning facts. Utility or straight gas ranges required but one service call per 8.647 customers in 3 years, or but 1 call per 2.882 customers per year. Dual ranges required 1 service call per 1.65 customers in 3 years, or 1 call per 0.55 customers per year. On the basis of \$4 per service call, each dual range sale builds up a potential yearly service expense of \$2.20 as against but \$1.38 for each utility or straight gas range.

Remember that you've got to live with those gas appliances after you sell them and that you probably won't charge the customer anything for reasonable service. Also take into consideration your greater vulnerability to electric competi-

TABLE 6. DUAL FUEL VS. STRAIGHT GAS RANGES.
An analysis of facts taken from the experience of Maine Gas and Appliances, Inc.

Subject Analyzed	Dual Oven Ranges	Utility Bungalow and Straight Gas Ranges
Number of installed ranges analyzed	136	147
Period covered by analysis	Jan. 1, 1947 to Jan. 1, 1950	Jan. 1, 1947, to Jan. 1, 1950
% service calls to number of ranges analyzed	60.29%	11.56%
Number of service calls	82	17
Ratio of service calls to other type of range	5.2 to 1	5 to 26
Average consumption, family of 2, cooking only, per year	323 lbs.	320 lbs.
Average consumption, family of 2, cooking only, per year 87 families 39 families 10 families <hr/> 136 families	323 lbs. 270 lbs. 221 lbs. Average 300 lbs.	
Average yearly fuel bill 87 families 39 families 10 families <hr/> 136 families	\$38.76 \$38.40 \$33.15 Average \$38.25	\$38.40
Lost to electricity in 3 years	10	4
% lost	7.35%	4%
Ratio of losses to electricity in relation to other type range	2.7 to 1	10 to 27

tion, the potential headaches and service expense.

When it comes to selecting a line of gas water heaters to sell, I suggest you follow the suggestions of informed industry men unless you

have had previous experience with some line of heaters that has worked out satisfactorily. There are dozens of makes of water heaters on the market, but few of them were originally designed for use

with LP-Gas although they have been put on the market as liquefied petroleum gas water heaters.

Two makes of water heaters, identical as to size, will show operating costs differing as much as 30% because of constructional differences. Look for adequate insulation, proper baffling of flue gases so as to make certain maximum efficiency in heat transfer and avoid heaters that bang or pop when the main burner is shut off by the thermostat. Never sell a water heater that does not have a 100% safety pilot or that does not bear an approval seal for use with liquefied petroleum gas.

Avoid Conversions

Don't think to save a few pennies by buying water heaters built for use with manufactured gas and then attempt to convert them in the field. Pay particular attention to the construction of the safety pilot and thermostat, for they will be the major cause of service complaints. I know of at least two well advertised water heaters which are the causes of many high bill complaints. Water heating can be one of your most satisfactory and trouble-free methods of load building, and it can also be your most troublesome way if you sell any old water heater and install it haphazardly.

Furthermore, don't rely upon the judgment of the town plumber in laying out the hot water lines. There are engineers who have given a life time of study to this matter of gas water heating. Follow the suggestions of the heater



Two makes of water heaters, identical in size, will have operating costs varying as much as 30%.

manufacturer as to pipe line sizes, heat traps, pressure and temperature relief valves and the like.

I most urgently recommend Charles W. Merriam, Jr.'s book, "Household Gas Water Heating" to you. It is entertaining and instructive. Also a study of the chapters on water heating in "The Bottled Gas Manual*" will be helpful.

Do not sell side-arm water heaters because you think that by so doing you can cut down the initial cost. Such heaters have their place but not in the average home. They should never be sold without a 100% safety pilot and a thermostat. When these safety controls are added to the price of the heater it becomes almost as expensive as a good storage water heater, and it will still be inefficient in comparison to a factory built and assembled unit.

When you come to gas refrigeration, you should by all means go after it for it is one of your best

* Published by BUTANE-PROPANE News.

paying loads and a study of profits from the gas appliance sales in Table 5 should convince you that it is one of the most profitable appliances to sell. If you cannot stock more than one refrigerator I suggest the 6 cubic foot size, for this will be your best selling model.

Refrigeration Story

Your sales story on gas refrigeration can be most interesting and convincing if you know the facts. Don't try to sell it upon price or operating costs but rather on results and lasting satisfaction. Your gas refrigerator will still be operating just as efficiently as the day that you bought it after your neighbor has worn out his third electric refrigerator. You will have less food spoilage and less weight loss in refrigerated foods because of the more even temperatures which the gas refrigerator maintains. In gas refrigeration you are selling a quality product against mass production units that are made to sell at a price instead of to last.

In space heating you will have need of a radiant heater line, a circulating heater line, floor, wall and central furnaces and possibly gas-steam radiators. Here again some manufacturers have merely reworked their units designed for other gases. If your finances are limited I suggest stocking three different sizes of radiant heaters, one circulating heater of about 45,000 Btu input and a floor furnace of the same size.

Actually look over the line before you buy. Consult with other

dealers. Inquire particularly if any trouble has been experienced with odor or back-flashing and burning off from the spud. Avoid such heating units. Whenever possible sell heating units which are factory-equipped with a 100% safety pilot, even in the cheap radiant and circulating lines. If possible, sell every heater with a thermostat. It will save you a lot of trouble from high bill complaints.

In closing this chapter I am again going to caution you about several "musts" if you are to be successful in selling appliances.

"Musts"

1. Select only quality merchandise.
2. Make sure that the manufacturer is ethical in his sales methods and will give you adequate protection.
3. Sell but one or two good lines and don't load your showroom with a lot of different brands of appliances that may become orphans.
4. Keep away from electric appliances.
5. Make sure of the efficiency and economy in operation of any line of appliances before you take it on.
6. Make sure that they are designed for use with liquefied petroleum gas and not just a "conversion."
7. Sell safety pilots with all space heaters.
8. If possible, insist upon a thermostat for every heating appliance.

Sales Clinic

IN SUBURBAN WASHINGTON, D. C., Robert Dowd has found a way to lick the trade-in problem. In his LP-Gas sales setup, the salesman "owns" the trade-in. That is, the salesman is free to make his own estimate of the worth of the trade-in appliance, but for the next 30 days, it is his property to dispose of.

He pays the cost of any repair on it to bring it up to standard, pays for the advertising necessary to sell it. If it is sold for a good price, the salesman makes an extra commission; if it will bring only a low, sub-margin purchase price, the salesman pays for the enthusiasm that made him allow too much on it.—Frances Faulkner

IN LUBBOCK, TEXAS, Carl Fleming's KeyStone-Fleming Inc., LP-Gas dealer, has a service-call card that has vastly increased the company's service operation. The card is handled by a service dispatcher who receives telephone requests for servicemen and checkmarks the card as to time, types of service, repair needed, brand of appliances, name, address, and if the service is to be free or billed.

Each serviceman has a pigeon-hole in the dispatcher's office desk, where all of his calls (by district route) are placed. When he has finished a job, he returns to the dispatcher's office, picks up the cards requesting calls in his territory, selects the tools necessary for the job listed, and is on his way in five minutes or less.—Gene Creighton

IN PANAMA CITY, FLA., West Florida Gas & Fuel Co. has proved to itself the value of a slogan as a sales tool. The company uses "Our Rolling Pipelines Never End" as a

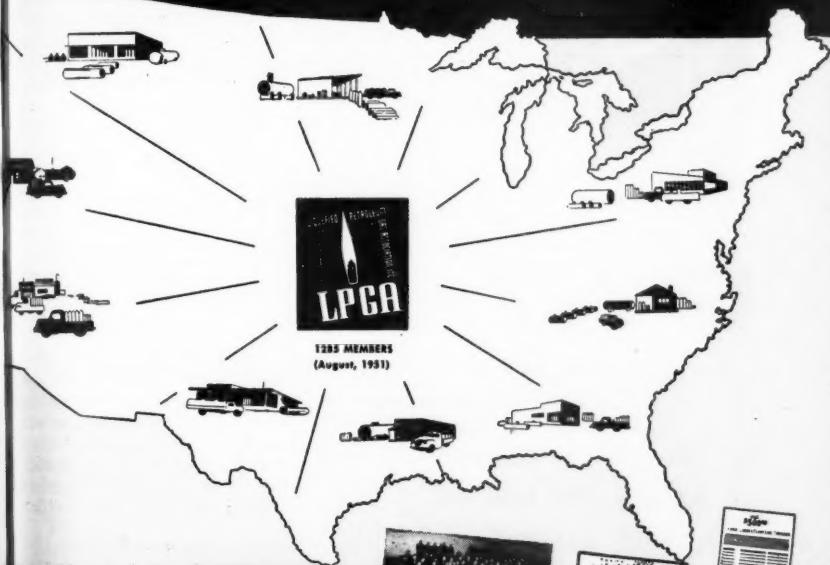


The slogan on this truck is an attention-getter for the West Florida Gas & Fuel Co.

TO A NATIONFUL IN '51

THAT'S THE TRUE SUCCESS STORY
ABOUT THE AMAZING GROWTH OF THE

LIQUEFIED PETROLEUM GAS ASSOCIATION



REGO
LPG GAS EQUIPMENT

Stocked by These Distributors
GAS EQUIPMENT CO.
Dallas, Texas
GAS EQUIPMENT SUPPLY CO.
Atlanta, Ga.
GAS EQUIPMENT CO.
of DENVER - Denver, Colo.
A. C. FINE, S. A., Mexico, D. F.
EMPIRE BRASS MFG. CO., LTD.
London, Canada



BASTIAN-BLESSING

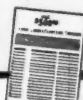
4201 West Peterson Ave. Chicago 30, Illinois



16" x 6" Group Photo



Key Chart



Official
Entry Blank

The Bastian-Blessing Company

4201 West Peterson Avenue
Chicago 30, Illinois

Please send me the above material so that I can enter the big Rego
\$500.00 Photo Identification Contest.

Name

Company

Address

City State

**LOOK! HERE'S
THE FINEST SPACE
HEATER CONTROL I'VE
EVER SEEN!**



**NATURALLY—
IT'S MADE BY THE
HONEYWELL PEOPLE!
YOU KNOW AS WELL AS I
DO THAT THEY MAKE THE
BEST CONTROLS!**

MINNEAPOLIS
Honeywell

First in Controls



sign on all its trucks—telling passers-by that LP-Gas is always available. The slogan is carried out in the company's newspaper advertisements and on all invoices and letterheads.

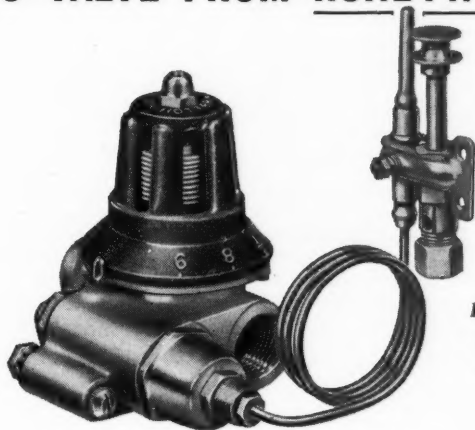
That it is effective is proved by the fact that new prospects will recognize the slogan even when they are not sure of the company's correct name.—Myra Hilderbrand

IN ST. ANDREW, FLA., a "packaged winter heating plan" has made many new customers for Domestic Utilities, Inc. W. R. Collingshead, head of the company, has had the plan in successful operation more than two years; it involves furnishing LP-Gas heat for customers during the winter months, then removing cylinders and blanking off the lines until the next winter.

The customer pays \$15 initial cost, and agrees to use a minimum \$1.50 worth of gas each month. The company puts the first cylinder of gas on the customer's premises on Oct. 1, and continues to replace it each month during the winter, without further direction from the customer. On April 1, the cylinder is picked up and the lines are blanked off. Currently, some 200 customers have the installation made each year, the gas delivered for the winter months, and the equipment removed without any specific orders to Domestic Utilities to do so. It adds to the dealer's gas load and requires no new selling job each fall.—Hilda Galloway

IN BIRMINGHAM, ALA., Delaney's LP-Gas appliance dealership has reaped a heavy sales harvest as a result of the "protected prospect plan" devised by W. K. Moore, sales manager, and J. A. McNeil, vice president. The plan insures that each of the firm's 18 salesmen, who alternate between doorbell-ringing and sales work in the Delaney's show-

NOW! A MODULATING THERMOSTATIC GAS VALVE FROM HONEYWELL!



Ideal for . . .
Console Heaters
Wall Heaters

Has built-in safety pilot — safe lighting — 100% shut-off

Here's an announcement you're sure to welcome — Honeywell, First in Controls, is building a modulating thermostatic gas valve! And this one's a honey! It's got all the fine quality construction and first-rate engineering you expect from Honeywell. Yet the cost is low — low enough to sell in volume to space-heater owners!

Bellows thermostat, valve, minimum flame adjustment and the safety pilot are all included in this one neat, compact unit. The thermostat measures room temperature and modulates the flow of gas from full volume to a predetermined, preset minimum flame.

Safety pilot gives 100% shutoff in case of pilot failure. A safe lighting feature

is incorporated so the main line valve can not be opened until the pilot has been established. And this unit is easy and inexpensive to install.

It will be a big profit-maker because so many of your customers now need and want low-cost temperature control. Moreover, it will help you sell more people on using LP gas! So don't wait any longer to get all the sales and installation facts. Call your local Honeywell office *today*. Or write Honeywell, Dept. BN-9-138, Minneapolis 8, Minn.

MINNEAPOLIS
Honeywell

First in Controls



room, will get the commission on any sale to any person he has contacted in the previous 30 days.

In other words, the salesman fills a card out on each prospect he has contacted. The card is put on file, and if that customer buys any appliance from Delaney's in the next 30-day period, the salesman who did the original contact work receives the commission. The salesmen, who operate on a straight commission basis, like this plan because they know that they won't be wasting their time on a customer if he is a little hesitant, and that if he comes into the store a week later to buy, the original contact work will stand as the selling factor. After the 30-day period has elapsed, the prospect becomes "fair game" for any of the other salesmen.
—Hilda Galloway

IN ST. AUGUSTINE, FLA., G. S. Hough, president of Hough Home Equipment Co., has had marked success with a "traveling laundry"—a truck outfitted with two automatic washers, two gas-fired clothes dryers, and a 35-gallon LP-Gas water heater. Mr. Hough goes out after the customers who won't come into the store. Using a gleaming white truck, he parks in the driveway, and does the family wash on the spot, within a few minutes. The truck is provided with electric and water connections, and the customer's garden hose provides the water. Currently, Mr. Hough does an average of three family washings for every five prospects contacted, feels that the on-the-spot demonstration is of tremendous value in building sales. He expects that the truck will pay for itself in sales within a few months' time.—Frances Faulkner

IN LUBBOCK, TEXAS, a clever direct-mail piece has helped W. A. Anthony, president of the Anthony

Co., to gain recognition for his firm in the minds of prospects. The mailing-piece is a card slightly larger than a postal card, with a cartoon drawing of a repair truck. In place of printed wheels, however, the truck has rubber plumber's washers. At the left is a list of Anthony services, and below the cartoon, a message reads "Call us for prompt service."

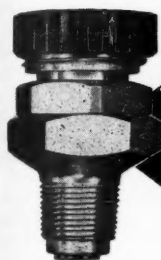
Mr. Anthony thinks that the 100,000-person trading area surrounding his establishment has been covered by the mailing-piece in the last five years. And whenever one of the recipients needs a new washer for his garden hose or kitchen faucet, he reads the Anthony Co. message.—Gene Creighton

"Selling Simplified" Has Information For Salesmen

A 256-page book entitled "Where Do You Go From No—Simplified Selling," by Leon Epstein, management consultant and sales, advertising and public relations counsel, contains simplified and clarified selling steps. Fifteen chapters of basic analysis and suggestions for making sales are presented.

For appliance and equipment salesmen, the book is valuable in "taking the scare out of selling." It deals with selling as a problem of human relations and stresses the salesman's individual approach as opposed to a uniform approach pattern. The use of common sense, selling from the customer's point of view, the opening, the finishing touch are only a few of the many points discussed.

Not only valuable to the beginner salesman, the book is a review for the executive, and can serve very well as a text in company sales-training programs. It is available for \$4.50 from Sales Research Institute, 103 Park Ave., New York 17.

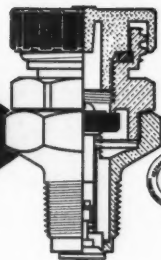


NEW

3/4" FILL VALVE

WITH DOUBLE BACK-CHECK

S-L
No. 650



Here is a 3/4" Fill Valve designed primarily for tractor and mobile fuel tanks. Being small in size it can be located more conveniently in the tank fitting group. The S-L No. 650 Fill Valve has a standard 1 1/4" Acme Hose Connection and a 3/4" Male Pipe Thread at the tank end. With large free-flow passageways the Model 650 has about one-third more capacity than standard 3/4" Filler Valves. It is of 2-piece construction similar to all S-L Fill Valves and incorporates a double back-check. This new S-L product carries UL Approval and is ruggedly built for the roughest kind of service.

S-L FITTINGS FOR LIQUID WITHDRAWAL

S-L 902 LIQUID WITHDRAWAL ADAPTOR

has 1 1/4" Standard
Acme Threaded
Inlet, Outlet.



S-L 902A
LIQUID WITHDRAWAL ADAPTOR
1/2" Female Pipe Thread Outlet for
direct attachment to hose fittings.

S-L 698C COUPLING

1 1/4" Acme to 1/2" Male Pipe Thread
for liquid or vapor lines.



S-L 631 FILL VALVE

incorporates double
back-check and all
features common to
the standard fill valve
plus the provision for
a 3/4" dip pipe.



The S-L 631 FILL VALVE contains a double back-check for quick filling; and when equipped with a dip tube, may be used as a Liquid Withdrawal Valve. By attaching either the 902 or 902A Adaptor, a turn of the hand wheel actuates a push pin which opens the No. 631 Check Valve permitting liquid to flow from storage to tractor tank.

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New Store Reflects Growth

By George E. Toles

A. J. RAMROTH has climaxed a highly successful decade in the bottled gas business by opening his new store at 31-33 Hoosick St., Troy, N.Y. It is one of the most modern outlets for bottled gas and appliances in upstate New York.

Mr. Ramroth entered the business back in 1941 when he purchased a bottled gas operation from Carl C. Bascom. Mr. Ramroth bought a half-ton truck at that time to service about 500 LP-Gas customers.

The new owner developed his business steadily and added to his accounts until today he has a total of 1200 users who are serviced by three trucks. Mr. Ramroth now has about 2200 cylinders in service.

The Troy bottled gas merchant got into the appliance end of the business back in 1943 when he opened his initial outlet for the sale of bottled gas and electric appliances.

This operation developed steadily and the firm outgrew its quarters. Mr. Ramroth decided to move to a new location and purchased the building at 31-33 Hoosick St. which was completely remodeled.

Interior of the new store is 30 by 30 feet. Color scheme includes blue, yellow, peach and black. The floor is covered with green, inlaid linoleum.

The store has three large display windows, giving street traffic a good view of the interior. They measure 9 by 12 feet, 6 by 9 feet and 4 by 9 feet.

Fluorescent tubing running the entire length of the store provides brilliant illumination. The store stocks a full line of gas ranges, water heaters and space heaters, and in addition displays many electric household appliances.

Another advantage of the new store over the old location is that it has increased parking area in the vicinity.

The firm drew considerable traffic during its formal opening by offering a free gift to each visitor.



Large show windows attract favorable attention to A. J. Ramroth's LP-Gas appliances in his Troy, N. Y., store.

In 3 Parts—PART 3
THE PUMP DISCHARGE LINE

Transferring LP-Gas WITH LIQUID PUMPS

By Lawrence W. Smith

Smith Precision Products Co., South Pasadena, California

UP to this point we have stressed only the importance of correct design of the pump inlet lines in obtaining the highest pump efficiency and the fastest delivery of fuel. Certain installations in common use also require careful consideration of the discharge line. These installations include delivery trucks and stationary pumping systems where the smaller tanks are filled. The discharge side of the piping in such systems contains more parts subject to wear and to deterioration in service than does the inlet line. The failure of any one of these many parts may cause a marked reduction in the speed of delivery.

An LP-Gas pump moves liquid by creating a differential pressure; that is, by forming a greater pressure on its discharge side than there is on its inlet side. This differential pressure is necessary in order to overcome the resistance-to-flow due to friction in the different parts of the discharge line, such as the following:

1. Discharge piping, valves, and fittings.

2. Meter and meter strainer.
3. Meter back-pressure valve.
4. Delivery hose (particularly if of small size, and very long).
5. Tank filler valve (particularly those on cylinders, which frequently have discharge holes as small as $\frac{1}{4}$ inch or even $\frac{1}{8}$ inch in diameter).

Then after all this resistance is overcome, liquid finally reaches the tank being filled. Here, there has to be *enough differential pressure left* to collapse the gas in the cylinder into liquid, if a vapor return line is not used. We often find that by the time the liquid finally reaches the cylinder so much of the pressure has been absorbed by the resistance of the parts in the discharge line, that the actual delivery rate is tediously slow.

LP-Gas pumps usually have their capacities rated by the manufacturer as the gallons-per-minute they will deliver in transfer service, pumping against zero differential pressure. For example, a pump rated at 50 gallons per minute is supposed to deliver at this rate if perfectly installed, filling a large

LAWRENCE SMITH



tank; and then only if a large vapor hose is connected to equalize tank pressures fully, and when there is no meter or other restriction in the discharge line.

Liquid butane and propane have very low viscosities. They are 10 times "thinner" than water. For this reason, pump capacities are greatly affected by increases in differential pressure. Capacities are reduced as pumps are called upon to deliver fuel against higher and higher pressures. For the units that our company manufactures, we often figure roughly that a pump loses about 5% of its rated capacity for every extra 10 pounds of differential pressure developed.

As an example, figure a 50-gallon-per-minute unit pumping against 40 pounds differential pressure. This pump has lost $4 \times 5\% = 20\%$ of its rated capacity. Since 20% of 50 gpm is 10 gpm, the pump will deliver only $50 - 10 = 40$ gpm when working against a differential of 40 pounds. In the same way, it can be shown that a 50 gpm rated unit will deliver only 25 gpm against a differential of 100 pounds.

In a poor installation, this loss would be in addition to that caused

by vapor formation in the pump inlet line forced by pump suction. Many types of LPG pumps, particularly centrifugal and turbine types, are even more sensitive to increases in differential pressure.

We can see that it is important to keep the differential pressure down to a low figure, in order to increase the capacity of the pump and speed deliveries. An unregulated pump will develop any differential pressure necessary to overcome the resistance-to-flow of the various parts of the discharge line, up to the point where the pressure is so high that the pump capacity is reduced to zero. At the higher differentials, capacity and delivery are reduced; so the practical way to increase pump delivery is to cut down on the restrictions as much as possible.

Further on, methods of testing the restriction of the parts in the discharge line will be described, and we will tell how to remove the restrictions. Before we do that, however, it is necessary to understand the function and setting of the pump by-pass valve.

Purpose of By-Pass Valve

We all know that the pump is working harder when it moves liquid against higher differential pressures. There is a point at which it is impractical to build up higher pressures. In many types of service a differential pressure of 50 pounds is the practical limit. In other cases, differential pressures as high as 100 pounds may be required, and satisfactorily used. The by-pass valve is placed in the system so that the differential pres-

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Say the by-pass valve is set to 50 pounds. As soon as the pressure in the discharge line exceeds the pressure in the inlet line by 50 pounds, the by-pass valve will open and allow enough liquid to run back to the storage tank to keep the differential pressure from ever going higher than 50 pounds. If the by-pass valve is set to 100 pounds, it will not open until the discharge pressure exceeds the inlet pressure by 100 pounds.

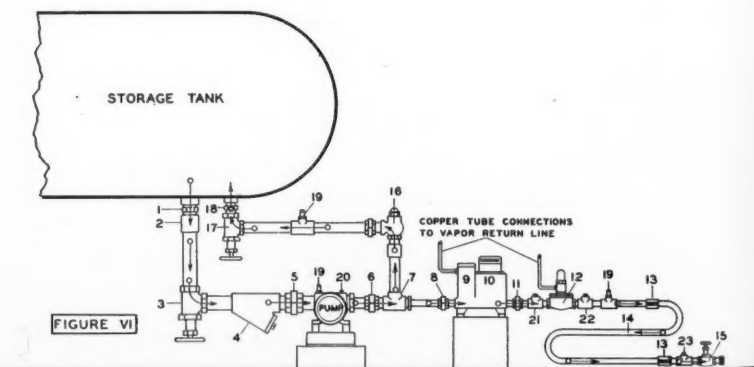
If the by-pass valve becomes worn out, or is set to open at too low a differential pressure, the pump may not be able to build up enough pressure to push liquid through the restrictions in the discharge line. The by-pass valve may allow most of the liquid pumped to go back to the storage tank. So it is important to know how to test a by-pass valve to see how much differential pressure is really being built up.

At this point, please refer to Fig-

ure VI, which is a diagrammatic drawing of a practical small-tank-filling installation, such as is often used for fueling motor vehicles. (Delivery truck piping is similar, having the same parts in the same order. The plan of this illustration is much easier to follow than a photograph or drawing of a truck layout where, because of lack of space, various parts are hidden behind the tank, frame, drive-shaft, etc.)

How to Test a By-Pass Valve

To test the by-pass valve, insert a pressure gage somewhere in the discharge line between the pump and meter strainer. A good place would be at point 20 in Figure VI. Read and record the pressure shown by the gage. Now start the pump, leaving the delivery hose valve closed, so that all the liquid moved by the pump is returned to the storage tank through the by-pass valve. Be sure to run the pump at its usual speed. While the pump is running, read and record the new





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pressure shown by the gage. The difference between the pressure reading taken while the pump was running and that taken before the pump was started, is the differential pressure developed to open the by-pass valve. This difference is the maximum differential pressure available to overcome the resistance-to-flow of the various units in the pump discharge line, and thus move liquid.

Let us say we have tested the by-pass valve on our propane truck in this way, and find that the pressure reading with the pump not running is 125 pounds. When the pump is running, the gage reading is 175 pounds. The difference between the two readings is 50 pounds, the maximum differential pressure that can actually be developed at this particular by-pass valve setting.

How to Test Resistance of Meter and Meter Strainer

To test the resistance-to-flow of the meter and meter strainer, we need two pressure gages. The one we used to check the by-pass valve is left in place, and a second gage is installed down the line from the meter, somewhere between the meter and the back-pressure valve, such as point 21 in Figure VI. This time, attach the delivery hose to a tank in the yard, open the hose valve, start the pump, and proceed to fill the tank in the usual manner. While this is being done, record the reading of each gage. The difference between the readings is the differential pressure necessary to move liquid through the meter strainer and meter. If this pressure difference is greater than about 5

to 10 pounds, it is usual to find that the meter strainer is clogged with dirt and causing too much restriction. However, if the strainer screen is removed and found to be clean, the meter itself may be worn, or its working parts may be stuck and require cleaning.

How to Test Back-Pressure Valve

To test the setting of the meter back-pressure valve spring, leave the gage installed between the meter and back-pressure valve, at point 21, and put the other gage in the line on the discharge side of the back-pressure valve, say at point 22. Again attach the delivery hose to a tank and proceed to fill the tank. The difference between the readings of the two gages is the back-pressure valve setting, or the resistance-to-flow of the back-pressure valve.

The diaphragm-type, back-pressure valve, which is one of the most widely used, will give practically no restriction when filling small tanks if the copper tube connection at the top of the diaphragm is run to a part of the pipe line carrying storage tank pressure. Even when the larger tanks are being filled, at no time should the pressure readings indicate a restriction of more than 10 pounds. If the difference in the two readings is more than this, the valve spring should be adjusted to the correct 10-pound reading.

Spring-loaded, back-pressure valves, without a diaphragm, ordinarily cause considerably more restriction. Correct adjustment will be the minimum spring setting found necessary to prevent meter

- (6) A TANK MANUFACTURER...Mailed 380 letters. Out of 154 replies, 104 said "BUTANE-PROPANE News is our leading publication."
- (7) AN APPLIANCE MANUFACTURER...Mailed 750 letters. Out of 153 replies, 100 preferred BUTANE-PROPANE News.

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The preference for BUTANE-PROPANE News is ample proof that its editorial policies fit the needs and interests of LP-Gas operators. Its staff has supplied the only textbooks for the industry...a technical handbook, sales manual, catalog and dealer aids. All readers may use the free advisory service (80 to 100 inquiries every month) for engineering, management and service information.

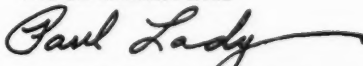
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Sincerely,

BUTANE-PROPANE News



Paul Lady, General Manager

FL:n

"spinning" when the delivery hose is first connected and the tank valves opened. Readers desiring more information on back-pressure valves and their use to assure accurate metering of LPG, are referred to the article "Accurate Metering of Butane and Propane" by R. Stanley Smith, published in the September, 1947, issue of the BUTANE-PROPANE News.*

Some meters are provided with "built-in" back-pressure valves. In such cases valves are factory preset for average conditions, and the manufacturer should be consulted before adjustment is attempted.

How to Test Hose Line

To test the resistance-to-flow of the hose line, install a gage at each end of the hose, such as points 22 and 23, and fill a tank as before. The difference between the gage readings will be the resistance-to-flow of the hose. It is surprising how much restriction can develop in an old hose, particularly one of small size ($\frac{1}{2}$ " or $\frac{3}{4}$ "), and unusually long (50 to 100 feet).

Suppose all of these tests are made. How shall the results be interpreted? In explanation, take the following example:

Resistance of meter and meter strainer	10 lbs.
Setting of back-pressure valve spring	20 lbs.
Resistance of long delivery hose	10 lbs.
<hr/>	
Total resistance of discharge line	40 lbs.
By-pass valve setting.....	50 lbs.
Total resistance of discharge line	—40 lbs.
<hr/>	
Differential pressure remaining	10 lbs.

Only 10 pounds of differential pressure is available at the end of the delivery hose to push liquid through the tank filler valve and collapse the vapor in the tank when filling. With such a small differential pressure available for the actual filling, delivery would be very slow, probably less than 5 gpm.

Reduce Resistance-to-Flow

In such a case we strongly recommend that every effort be made to reduce the resistance-to-flow at these points. Let us assume that the meter strainer was cleaned, lowering its resistance from 10 pounds to 5 pounds. The adjusting screw on the back pressure valve was unscrewed until the spring setting was 10 pounds instead of 20 pounds. A new delivery hose, having no measurable restriction, was installed. We now have

Resistance of meter and meter strainer	5 lbs.
Setting of back-pressure valve spring	10 lbs.
Resistance of delivery hose.....	0 lbs.
<hr/>	
Total resistance of discharge line	15 lbs.
By-pass valve setting, unchanged at	50 lbs.
Total resistance of discharge line	—15 lbs.
<hr/>	
Differential pressure remaining	35 lbs.

With more than three times as much differential pressure now available at the end of the hose to fill the tank, it could be expected that the delivery rate would be increased to at least 15 gpm.

After the restrictions in the dis-

*This article has been reprinted, and is available in the booklet "No. 2—Bulk Plants" from BUTANE-PROPANE News for a price of 50c.

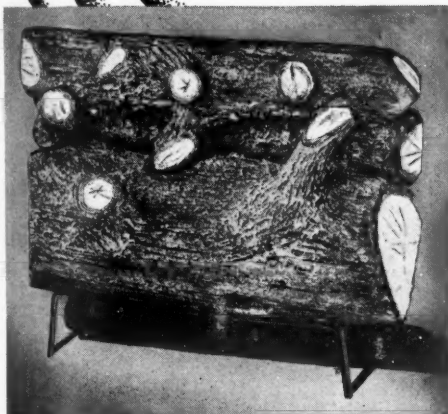
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charge line are reduced as much as possible, delivery speed to very small tanks can be increased still further by tightening the adjusting screw on the by-pass valve to increase the spring setting to 75 pounds. In special cases, by-pass valves have been set to as high as 100 pounds. The resulting increase in the amount of differential pressure available to overcome the resistance-to-flow of the discharge line will automatically increase the amount available at the end of the hose to fill the tank.

Some LPG pumps are capable of operation at higher differential pressures than others. In order to be sure, consult the manufacturer of your unit and ask him to advise you regarding the maximum differential pressure your pump is capable of handling. Increasing the by-pass valve setting may overload the electric motor, in the case of bulk plant pumps. The pump manufacturer should be asked to supply figures showing the power requirement of the pump at various differential pressures. On trucks, of course, an almost unlimited supply of power is available to drive the pump. It would be an unusual pump indeed that would overload a 100 hp. truck engine.

Matter of Economics

The author has been asked this question perhaps more than any other: "Doesn't an increase in the by-pass valve setting cause excessive pump wear, necessitating frequent replacement of working parts? My answer is that, of course, the pump is working harder if it is pumping to higher differen-

tials. However, the pump will be able to fill the tank faster, and will not run for as long a period of time per gallon delivered. It is a fact that many dealers are now finding that in certain cases the labor savings resulting from speeding delivery far outweigh the increased operating costs due to more-frequent pump repairs. In particular, a fairly high by-pass valve setting is economical on delivery trucks where stops are not far apart, delivery is mostly to small tanks and cylinders, and the delivery hose is necessarily of long length.

SUMMARY

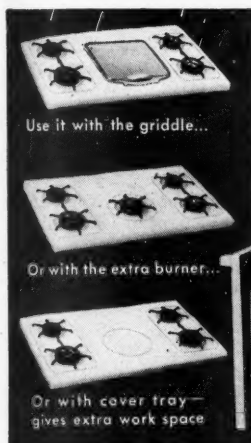
1. The maximum differential pressure built up by a pump is determined by the setting of the by-pass valve. Differential pressure is the difference between the pressure in the pump discharge line and the pressure in the pump inlet line.

2. When pump delivery is slow, tests should be made to determine if the meter, meter strainer, back-pressure valve, or delivery hose have developed a high resistance-to-flow.

3. Resistance-to-flow of the various parts in the discharge line must be reduced as much as possible, in order to speed delivery.

4. Increasing the by-pass valve setting to 75 pounds, and in some cases to as high as 100 pounds, will help speed delivery to small tanks and cylinders, but will cause faster pump wear. This higher setting is sometimes economical for delivery trucks.

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Associations

North Eastern District, LPGA

Lt. Gen. Robert L. Eichelberger, commander of the U.S. 8th Army during World War II, will be the principal speaker at the annual Northeastern District meeting of the Liquefied Petroleum Gas Assn., F. W. Frost, sales manager, Pyrofax Gas Co., New York, chairman of the arrangements committee, has announced. The event is scheduled for Oct. 11, at Hotel Statler, New York City.



W. A. NAUMER

Gen. Eichelberger was slated to address a joint meeting of LPGA's Northeastern and Southeastern districts in Atlantic City, N.J., last fall, but was unable to keep the engagement because of a serious operation.

Other speakers on the Oct. 11 program will include George Kelly, sales manager, Utilities Distributors, Inc., Portland, Maine, who will give a presentation on safety; Roy R. Johnson, vice president, Fuelane Corp., Liberty, N.Y., who will monitor a question-and-answer symposium, and Lee A. Brand, chairman, National Committee for LP-Gas Promotion, Belleville, Ill., who will tell "What the National LP-Gas Promotional Program Has Done for You." E. Carl Sorby, vice

president, Geo. D. Roper Corp., Rockford, Ill., will speak on "Actionizing Your Sales Ego"; John Ackley, assistant sales manager, Pyrofax Gas Co., will talk on the need for careful financial management of LP-Gas dealerships, and Howard D. White, LPGA's executive vice president, Chicago, will give a progress report on association activities.

Walter A. Naumer, vice president, Pyrofax Gas Co., who is LPGA's Northeastern District director, will preside at the meeting.

Idaho

L. V. Rothrock, Liquefied Gas Corp., Boise, Idaho, was elected president of the Idaho LP-Gas Assn. on Aug. 13 when dealers gathered at Twin Falls to adopt a constitution and complete the organization of their group.

L. J. Thatcher, Northwest Butane Gas, Inc., Idaho Falls, was named vice president, and O. M. Cox, American Propane Co., Nampa, was selected secretary-treasurer.

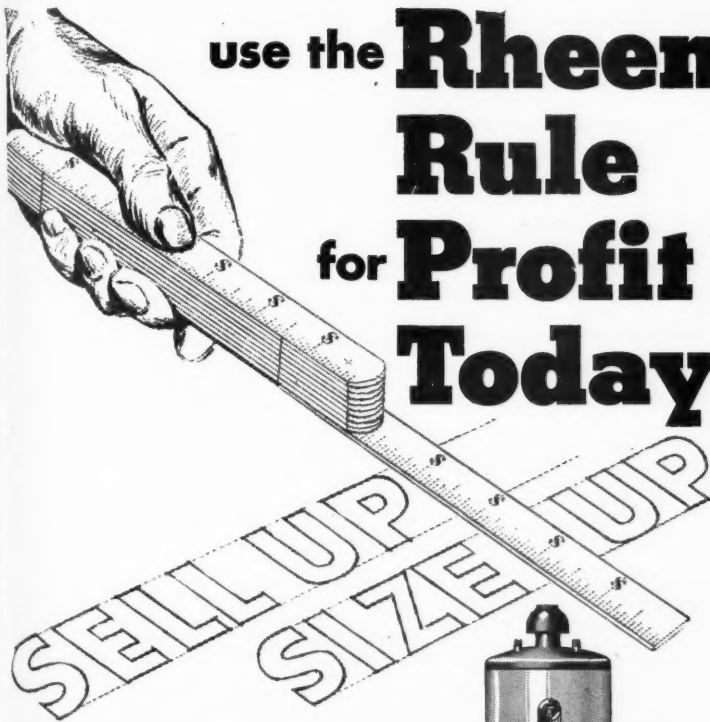
Affiliation of the Idaho association with the national LPGA was voted as the first official business after election of officers.

Another meeting in the form of a celebration of the organization will be held about the middle of September in Pocatello.

Kansas

At a meeting of the board of directors in Wichita on July 30, President A. C. Ferrell of the Kansas

use the **Rheem Rule** for **Profit** **Today!**

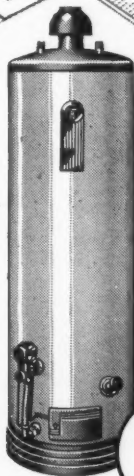


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LP-Gas Assn. named the following members to serve on the nominating committee for the fall election:

Leo Jenkinson, Consumers Butane Co, Kiowa; G. M. McClellan, Propane Gas Service, Salina; Everett Christenson, Christenson LP-Gas & Implements, Lawrence; Ward Sauvage, Sauvage Oil Co., Oberlin; and John Carlin, Skelgas, Salina.

The annual fall meeting, scheduled for Oct. 29 at the Broadview hotel in Wichita, will feature, in addition to elections, industry speakers, a luncheon, fellowship hour, and banquet and dance.

Nevada

Dealers in Nevada will meet in Reno at 10 a.m., Sunday, Sept. 23, to ratify a constitution and elect officers for the new state association planned for that state.

The location will be at El Cortez,

Reno. After the business meeting, there will be a dinner party, with special entertainment. Wives of dealers are specially invited.

North & South Carolina

A joint meeting of the North and South Carolina LP-Gas Assns. will be held Sept. 14-15, according to E. K. Butler, president of the South Carolina group.

The meeting place is the Ocean Forest hotel, Myrtle Beach, S. C.

Virginia

The Roanoke hotel, Roanoke, Va., will be the meeting place of the Virginia LP-Gas Assn. when the group gathers for its annual convention Sept. 10-11.

The two-day affair will be presided over by Sam W. Goode, president of the association.



Some of the 125 students who attended the Rocky Mountain Empire LP-Gas service school in Denver recently.

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Increases Customers and Profits By Restricted Sales Territory

By O. D. Hall

CONCENTRATING one's operations to narrowed territory, even at the sacrifice of giving up existing customers may sometimes serve as the foundation for greater efficiency, prevent ruinous competition and provide the springboard for future expansion. The net result may be prosperity and well integrated expansion within a compact area.

A program of consolidation did just that for Butane Gas Delivery Co., Inc., of Pauline, Kans.

The company, occupying the back room of a small filling station, was purchased by F. N. Emmons in September of 1944. Facilities and equipment included a 12,000-gal. butane storage tank and a 1400-gal. delivery truck.

The major problem confronting the new owner was one which concerned his wide delivery area. His territory extended as far as 85 miles from Pauline, in some directions. Spread thin over this large area were 672 customers.

The disadvantage of widely scattered consumers in small towns and rural areas, many living far distant from the home base, became immediately apparent. The expense of supplying these accounts with existing equipment made serious inroads on profits. The possibility of rendering good, fast and efficient service was remote. Competition was increasing on the far-flung fringes of the territory.

Mr. Emmons evaluated the situation and decided to pursue three major courses of action. First, he improved his delivery system by add-

ing equipment; second, he increased his ability to provide rapid and continuous gas supply during periods of sudden or peak demand by adding to his storage capacity; third, he drew in his lines to a 30-mile radius. In short, he had consolidated his position.

The soundness of this program is apparent today. Concentration on consumers nearer home resulted in an excellence of service that stopped competition cold.

The company now serves 1800 customers who use domestic storage tanks of from 250- to 4000-gal. capacity. The company's equipment includes one 18,000 gal. and two 12,000-gal. tanks, manufactured by McNamar Boiler & Tank Co. of Tulsa, one 1360-gal. and two 1240-gal. delivery trucks, two bottle pickups, a bottling plant and an LP-Gas town distribution plant with 3500 feet of mains.

The central plant serves 25 domestic and 6 commercial and industrial consumers. Fuel is supplied through 1½-in. mains, 1-in. laterals directed along alley easements, and ¾-in. Type K copper tubing to the consumer structure. All lines have been laid 30 in. below ground surface. American Meter Co. liquid meters, indicating consumption by gallons, are installed at points of delivery.

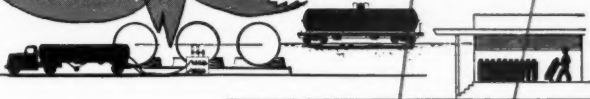
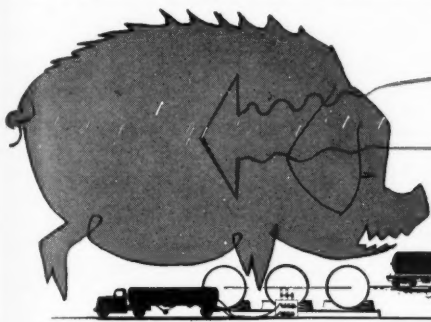
The initial investment in the town plant was described as justified by subsequent savings in delivery costs. It fitted in with the program emphasizing efficient supply. Man hours

YOUR PUMP INSTALLATION MAY

DECIDE

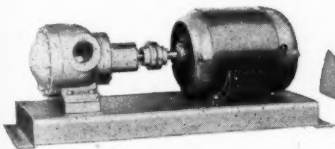
WHERE

PROFITS GO



Among the 14 models of Smith Pumps there is one made to order for your particular operation. Labor cost is your biggest single item in LPG transfer and therefore labor saving features are a carefully planned part of Smith Pump design and manufacture. Each size provides the fastest delivery in its specific range and all models give long peak performance with a minimum of service or maintenance.

To help you make a good pump installation we offer you assistance — based on many years of specializing in Butane-Propane transfer — in the form of reprints of articles on "Pump Problems." These informative discussions, illustrations of piping layouts, and literature describing the most efficient operating ranges are available to qualified pump users for the asking.



SMITH

PRECISION PRODUCTS COMPANY

1135 MISSION STREET • SOUTH PASADENA, CALIFORNIA

Kansas Dealer Serves Town and Country Users



This modern school building at Pauline is heated by LP-Gas.



This 42,000 - gal. butane - propane storage plant supplies Pauline, Kan., through underground mains and the surrounding territory over a 30-mile radius with tank truck delivery service. It is located on the Santa Fe Railway system.



One of the company's LP-Gas delivery trucks.

F. N. Emmons, president, Butane Gas Delivery Co., Inc.



Metered LP-Gas heats this little 80-year-old community church at Pauline.



Some of the many shiny appliances displayed behind vision-clear glass windows by Butane Gas Delivery Co. at Pauline, Kan.



saved were readily available for improving mobile delivery systems for outlying towns and rural consumers.

The picture has changed considerably from the day when the dealer was forced to occupy the back room of the filling station because of housing shortages in Pauline. Today the firm of 10 employes is directed by Mr. Emmons, president, who has remained active in management and sales. Mrs. Emmons is secretary-treasurer and their son, Jim, is vice president. Another son is expected to join the concern when he returns from service in the navy.

An ample, one-story building is used for display of the extensive lines of appliances. Storage, delivery and office facilities are extensive.

Most of the old town has been torn down and replaced by modern homes, business houses, and a school. Highway 75, a modern, four-lane, super highway has been routed through the town of Pauline. Future prospects of the community were further brightened by reactivation of Forbes Air Force Base, located about 1 mile to the south.

An excellent job of distributing gas and its modern convenience have undoubtedly done much to encourage the growth and progress of the area. But it has also been illustrated that a well integrated program of consolidation can result in better distribution service, discourage competition—and pave the way to profits.

Large Turn-Out Expected At Eastern Service School

The fourth Eastern butane-propane service school, sponsored by the Liquefied Petroleum Gas Assn. and the University of Bridgeport, will be held in Bridgeport, Conn., Sept. 9-12. John Bodnar, director of the Division of



WALTER HOAGLAND



M. B. GAULT

Engineering at the university, is in charge of arrangements and inquiries should be directed to him. An attendance of approximately 150 is expected.

The program includes such topics as servicing water heaters (sound-color film), by W. L. Farmer, A. O. Smith Corp.; coordination of piping and regulator, by Ralph Engstrom, The Bastian-Blessing Co.; servicing commercial appliances, C. A. Westbrook, Pyrofax Gas Co.; refrigeration, Myron East, Servel; space heating, Alfred R. Johnson; automatic controls, M. B. Gault, Robertshaw Thermostat Div.; miscellaneous burner applications, William Young; clothes dryers, T. A. Jones, Hamilton Manufacturing Co.; venting gas appliances, C. E. Blome, William Wallace Co.; gas vs. electricity display in cooking, Roger G. Stillman and Alfred Teweles, Caloric Stove Corp.; customer relations and the serviceman, Roy Johnson, Fuelane Corp.

An open forum will be moderated by R. A. Saunders of the Bottled Gas Corp. of Virginia. According to Walter Hoagland, Fisher Governor Co., other topics will include industry background, location of equipment, servicing, controls, competitive appliances, complaint analysis, accident prevention, and how to increase sales.

Carl Abell Joins Editorial Staff Of Butane-Propane News

Tying in with plans for a greatly expanded editorial policy and coverage, announcement is made that Carl Abell has joined the staff of BUTANE-PROPANE News as editor.



CARL ABELL

Lynn Denny, who has edited this magazine since its first issue more than 12 years ago, has been promoted to executive editor.

Mr. Abell has been writing feature articles for BUTANE-PROPANE

News for several years. At the present he is preparing a complete handbook and service manual upon the principles of LP-Gas carburetion, which will be published this fall under the title of "Butane-Propane Power Manual."

Much of Mr. Abell's time hereafter will be spent in the field interviewing dealers throughout the country, studying their problems, learning their needs, and reporting the methods they have used to advance their businesses along with the growth of the LP-Gas industry.

Mr. Abell attended the University of California, following which he has been associated in various technical capacities with a number of national organizations. While employed by Fageol Motors Co., Oakland, Calif.; American Car & Foundry Co., New York; Hall-Scott Motor Car Co., Berkeley, Calif., and the Ethyl Corp., he gained broad experience in advertising, the production of service literature, public relations, and various forms of technical writing. For the past four years he has been a profes-

sional writer covering various technical fields, including liquefied petroleum gas.

As a member of the Society of Automotive Engineers during the last 20 years, he held several offices and committee chairmanships in the Southern California section of that organization.

Mr. Abell's headquarters will be at the Los Angeles offices of BUTANE-PROPANE News, but he will also spend time at the company's district offices in Tulsa, Chicago, Cleveland, and New York.

Texas Gas Products Buys West Texas Gasoline Plant

The Texas Gas Products Corp., an affiliate of Texas Natural Gasoline Corp., recently purchased Upton Gas Product Co.'s interest in the Benedum gasoline plant located in Upton county, Texas. The sale was consummated in Dallas, Texas, July 24. The consideration involved in the sale was reported to be approximately \$2,000,000.

The Benedum plant was designed and erected in 1949 by Texas Natural Gasoline Corp. to recover 90% of the propane and substantially all heavier components from 65 million cubic feet per day of inlet gas, and has a liquid through-put capacity of some 325,000 gallons per day of hydrocarbons. This plant's propane storage volume of approximately 9 million gallons is thought to be the largest plant storage capacity for propane in the world.

The plant will continue to be operated by Texas Natural Gasoline Corp. The corporation's principal offices are located in the Wright Bldg., Tulsa, Okla., and its officers are John T. Oxley, president; John D. Curtin, Jake L. Hamon, and Edwin L. Cox, vice presidents; and Claig H. Perry, secretary.

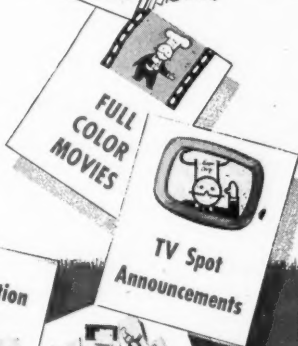
Magic Chef



throws
the
book

AT YOUR CUSTOMERS!

Magic Chef is really throwing the sales book at your customers this fall. Powerful national advertising campaigns, hard-hitting sales promotions, merchandising aids, and point-of-sale material — the American family is going to be hit with **EVERYTHING** possible to get them into your store! Start featuring *Magic Chef* today! It's going to be the "best seller" in your order book!



where features are
the finest
it's *Magic Chef*



EXCLUSIVE
SWING OUT
BROILER

Guarantees smokeless broiling. Waist-level broiler lifts out for easy cleaning, door protects against spatters.



EXCLUSIVE
RED WHEEL
REGULATOR

Famous the world over for exact oven heat control. Assures perfect oven baking for amateurs or experts.



EXCLUSIVE
ONE-PIECE
TOP BURNER

An easy cleaning feature every woman wants. Burners slip out of range in a jiffy for quick washing at the sink!

Products...

Range-Heater

TAPPAN STOVE CO.
240 Wayne St., Mansfield, Ohio.

MODEL: D-73 & G-73.

Description: These two new divided-top kitchen heater ranges are equipped with a blue flame, 30,000 Btu space heater with room thermostat. The burner is lighted automatically and has a 100% safety shutoff valve. Model D-73, the deluxe version, is equipped with a light in the top roll, the Tappan "Visiminder," white burner trays, simmer-set valves, and shell-type white plastic door handles with chrome.

Both models are built on a 36-in. chassis and have 1-piece welded body construction. The completely enameled ranges have one giant, two standard, and one "mighty-mite" burners. They have 17-in. porcelain-lined ovens and "clean-quick" smokeless broilers with porcelain pan and slotted grid.

Tappan has also announced a new standard range, Model GG-72.



Incubator

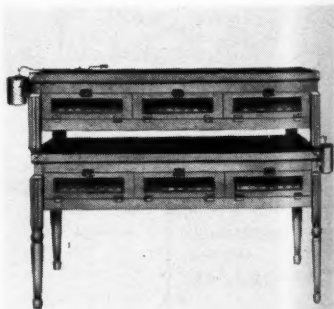
BROWER MANUFACTURING CO.
209 N. 3rd St., Quincy, Ill.

MODEL: 85G, 150G, 300G, 450G, 600G, 900G.

Application: Incubators are adaptable for hatching chicken, turkey, goose, duck, pheasant, and quail eggs.

Description: The cabinets, with double glass doors, are of California redwood with adjustable ventilators at top and bottom. Masonite insulation is in top. The units are equipped with patented egg-turning trays and deep nursery trays.

All gas models have hot water heating system with heat automatically controlled. In the two-deck machines, each deck has its own heating system and operates independently. This permits the use of either one or two decks, as desired. All machines are complete with trays, heat regulator, thermometer, and operating instructions.



PRODUCTS

Exhaust Gas Analyzer

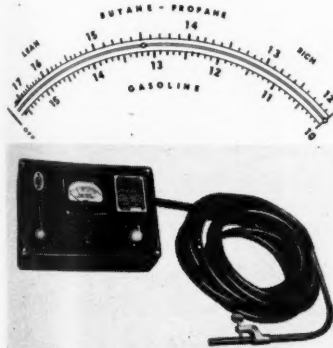
QUALITY ELECTRIC CO.
1026 S. Grand Ave., Los Angeles.

MODEL: Elliott "Carburetor."

Application: The unit is for quickly determining the proportions of the mixture furnished by a carburetor.

Description: Also known as an air-fuel ratio indicator, the Carburetor is an accurate precision measuring instrument containing a Weston meter, ensuring correct readings. It utilizes four electrically heated, platinum resistance elements arranged in a Wheatstone bridge circuit. It is operated by means of three ordinary flashlight batteries. Water does not affect the unit.

Its portability makes it suitable for either road or shop testing and is easy to attach and operate. Specifications: 9¼ in. x 6½ in. x 3 in. It is equipped with a 15-ft. hose, 3-ft. sampling tube, and tail-pipe assembly. National distributor is the American Liquid Gas Corp., 1109 S. Santa Fe Ave., Los Angeles.



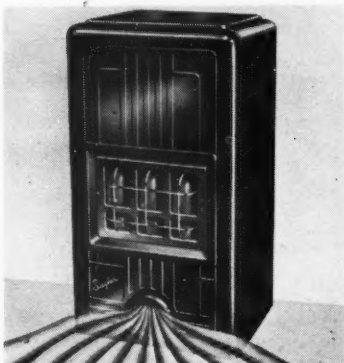
Kitchen Heater

SIEGLER ENAMEL RANGE CO.
Centralia, Ill

MODEL: Kitchen Queen.

Description: This triple-duty kitchen heater not only heats three rooms, it also maintains steaming hot water at all times and cooks and keeps foods hot until ready for serving. AGA-approved for all gases, the heater has a Btu rating of 45,000. The cooking top is 36 in.; it is 16 in. wide and 22 in. deep. The unit is finished in white and black porcelain enamel. A Baso 100% safety shutoff valve is featured together with the patented "Two-in-One Heatmaker" which draws cold air from the floor, heats, and circulates it evenly throughout the area to be heated.

The units are shipped as a complete package from the factory. During the automatic operation of the blower, the user may select the desired speeds: high, medium, low, or off.



PRODUCTS

Domestic Range

PERFECTION STOVE CO.
7609 Platt Ave., Cleveland 4, Ohio.

MODEL: Perfection No. 940.

Description: This is a 40-in. divided-top range. The speckled-blue oven is banquet size and the broiler is the low, roll-out type with porcelain-enameled pan and special smokeless grid.

There are four light-weight stainless steel burners—two standard, one giant, and one economy—all with true simmer control. Grates are black, porcelain-enameled cast iron. Ample storage space for utensils has been built into the Model 940 featuring one large storage compartment plus an additional convenient pull-out drawer.

Engineered for use with any type of gas, the new Perfection range is finished—front, top, and sides—in white titanium porcelain enamel.



Stock Tank Heater

TESCO, INC.
110 S. Norfolk, Tulsa, Okla.

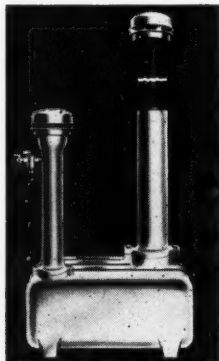
MODEL: Blu-Blaze, No. 950A.

Description: Designed around a self-sinking heating boiler using a drilled port, venturi-type burner, the new stock tank heater can be installed by merely lowering into tank and connecting to gas. By using new "Blu-Blaze" vent caps, the effect of winds is balanced so as to eliminate burner failure and prevent efficiency drop.

The new unit, with two years' field testing, has an input capacity of from 6000 to 18,000 Btu.

A minimum of service is required; pilot light and temperature controls are available and all burner adjustments are made at the factory.

Other features on the Tesco stock tank heater include leak-proof, weather-proof construction; drilled port, cast iron burners of the venturi type.



Magic Chef

...with the most dynamic
**ADVERTISING AND SALES
PROMOTION PROGRAM**
in American Stove History

**HELPS YOU
BREAK THE
BOTTLENECK!**

This fall's *Magic Chef* drive concentrates on moving *Magic Chef*, BUT—it also creates extra store traffic—traffic that moves your backlogged inventories. Tie-in with *Magic Chef* and "BREAK THE BOTTLENECK!" Contact your *Magic Chef* salesman today. Build your stock and get those promotional aids working. Mister you're going to sell!



13 MAGAZINES—100,000,000 IMPRESSIONS! The nation's leading magazines sell for you, and your ads appear in her home!

SALES PROMOTION MATERIAL Cooperation with famous hotels, restaurants, and stores give displays unusual attention!

METROPOLITAN MARKET PROMOTIONS Big newspaper ads, both Sunday and daily, generate heavy local demand!

FULL COLOR MOVIE AD FILM Dramatic sound and action tell and show the story to your movie-going neighbors!

TELEVISION SPOT ANNOUNCEMENTS Convincing TV spots sell for you, and your ads appear in her home!



where features are
the finest
it's *Magic Chef*



**SWING OUT
BROILER**

Guarantees smokeless broiling. Waist-level broiler lifts out for easy cleaning, door protects against splatters.



**RED WHEEL
REGULATOR**

Famous the world over for exact oven heat control. Assures perfect oven baking for amateurs or experts.



**ONE-PIECE
TOP BURNER**

An easy cleaning feature every woman wants. Burners slip out of range in a jiffy for quick washing at the sink!

PRODUCTS

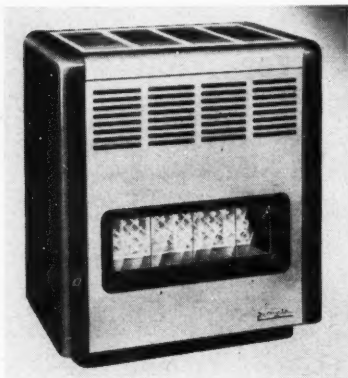
Circulator

OHIO FOUNDRY & MANUFACTURING CO.
Steubenville, Ohio.

MODEL: Brilliant Fire 3-Way.

Description: The new models have "Full-Glow" radiant fronts which are protected by pyrex glass panels. These circulators have been engineered for all gases and are approved for high altitude operation.

Standard equipment includes built-in draft diverter and precision-ignition pilot. Also featured is a 100% welded radiator. Optional equipment on the new "3-Way" Brilliant Fire models includes automatic (fingertip or remote electric) or manual controls. The units are finished in infra-red baked enamel in two-tone brown or beige. The fully-enclosed, fully-vented models are available with either 35,000 or 50,000 Btu ratings.



Product Information

Caloric Stove Corp., Philadelphia, has announced that tracks on which the rollers are mounted for the Caloric standard broiler and for service drawers are now being finished in porcelain enamel. This change has been made to increase the life and ease of cleaning offered by Ultra-matic Caloric gas ranges.

Two new controls designed for the water heater market have been announced by the Appliance Controls Division of Minneapolis-Honeywell Regulator Co., Los Angeles.

The water heater control (Q5111A) is a combined thermostat and gas control valve that will convert a side arm heater and water tank into an automatic, domestic hot water system. A pilot shutoff cock, pilot tubing, and a pilot tip are included in the packaged set which can be installed as conversion equipment on existing manually operated side arm water heaters or can be sold along with new heater installations. The control is AGA-approved.

The "Watertender," No. V5119, is original control equipment for automatic water heaters. It consists of a snap-action thermostat, a pilot-light adjustment, and a thermomagnetic pilot with a safe-lighting feature. The Watertender, AGA-approved, has been tested on all types of domestic automatic water heater applications.

Catalogs

Just published is the third issue of "The Humidity Engineer" by the Surface Combustion Corp. describing humidity conditioning equipment and its utilization by industry. The use of humidity conditioning equipment for defense production, methods for maintaining extremely low dew points in military powder plants, creating di-

Long on Service..

.. short on repairs



For metered service installations — the service of standardized measurement, choose the meter with a record for long service and low maintenance cost, the Sprague Zephyr, with the capacity and stamina for the future.



SPRAGUE
Zephyr
METERS

**THE SPRAGUE METER COMPANY
BRIDGEPORT 4, CONN.**

verse conditions for test purposes in research laboratories, and facilitating the continuous manufacture of laminated safety glass are described in feature articles.

Copy of the publication may be obtained by addressing the editor, "The Humidity Engineer," Surface Combustion, Toledo 1, Ohio.

Bowser, Inc., Fort Wayne, Ind., has issued a brochure describing the "1001 Ways" Bowser and its many subsidiaries serve industry. Discussed products of interest to LP-Gas dealers include the incinerators manufactured at the company's incineration division at Cairo, Ill.

The extensive line of liquid handling equipment and the background for the slogan "Wherever liquids are handled—there's a need for something Bowser makes," together with a breakdown of Bowser subsidiaries are described.

A new two-color bulletin has been issued by the Heating Division of A. O. Smith Corp., Toledo, Ohio, describing the Burkay 180 hot water sanitizing unit for use in small restaurants. The bulletin, No. HDH-1915, illustrates use of the "180" with the A. O. Smith Permaglas water heater to provide both general purpose and sanitizing hot water. It is available from the company upon request.

New ribbon burner developments on Janitrol gas heaters have been released by Surface Combustion Corp., Toledo, Ohio. The change consolidates natural, mixed and liquefied petroleum gas burner ribbons into one design, simplifying stocking and gas changeover problems. The new, stainless steel ribbon packs, riveted at one end, are quickly snapped out of a ribbon holder, open at the same end, for easy cleaning and replacement.

Corrugated ribbons can then be fanned out from rivet pivot for positive cleaning.

The burner ribbon assembly is interchangeable in the field with all previous ribbon assemblies. Another feature permits the cross lighter ribbons to be drawn out either end of the cross lighter holder. Ignition from the cross lighter is positive because the open ends of the ribbons in the burner assembly are in direct contact with the cross lighter.

Protane Corp. Expands Eastern Operations

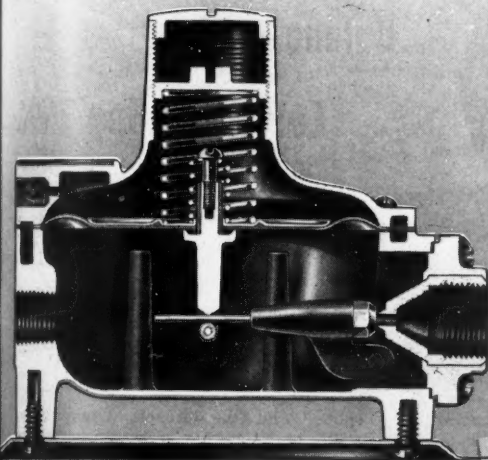
The Protane Corp., Erie, Pa., operators of Protane bottled gas service, has purchased the LP-Gas business of Henry J. Gautschy and Edward Braen in Hawthorn, N.J. Originally, the Hawthorn property was a franchised Protane dealer. It operated under the name of Protane Gas Service even after terminating their affiliations with Protane to become an independent marketer.

In announcing the acquisition, H. N. Forman, president of Protane, said, "In addition to giving us several thousand new customers, this purchase increases the density of our Northeastern operation which already extends from Easton, Md., to Mahopac, N.Y. Plans for the immediate construction of a bulk plant are underway. While we are awaiting completion of the installation, the Hawthorn district will be served from our Lambertville plant in New Jersey."

Sales and service will be maintained in Hawthorn during the construction period. Mr. Forman also stated that, in line with their expansion program, other purchases soon would be announced. Protane has been marketing LP-Gas for 28 years. At present, their activity covers 25 states east of the Mississippi.

BASICALLY

fine REGULATOR



The Type 922 is the basic regulator with the flanged inlet fitting. It is interchangeable to make all the assemblies shown.

POL INLET - $\frac{3}{4}$ " PIPE OUTLET

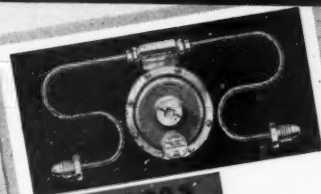
FISHER®

TYPE 922

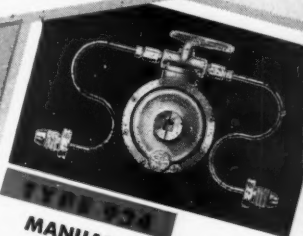
Basically a fine regulator, compact in size but large in capacity—the Fisher Type 922 serves the entire LP-Gas Industry, not only as the heart of bulk tank systems and single cylinder installations but also as the basic regulator in all two cylinder assemblies, such as the Types 923, 924, 925 and 922-1850A.

FISHER GOVERNOR COMPANY
Marshalltown, Iowa

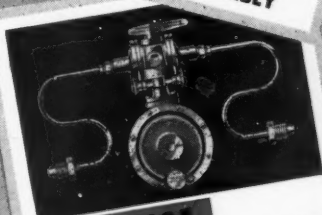
EASTERN OFFICE: 212 E. State St., Westport, CONN.



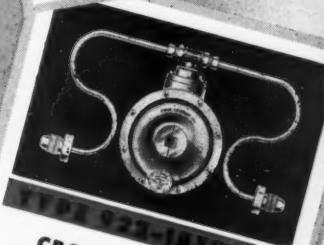
TYPE 923
INTEGRAL CROSS TEE
CHECK MANIFOLD ASSEMBLY



TYPE 924
MANUAL CHANGEOVER
REGULATOR ASSEMBLY



TYPE 925
AUTOMATIC CHANGEOVER
REGULATOR ASSEMBLY



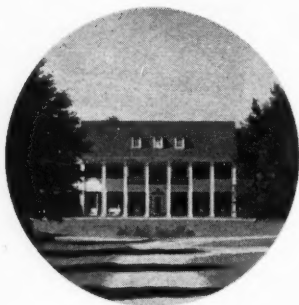
TYPE 922-1850A
CROSS TEE CHECK
MANIFOLD ASSEMBLY



FISHER

LEADS THE INDUSTRY IN RESEARCH FOR

IN WILSON, ARKANSAS



Bulane Speeds

Cotton Ginning 25%

By ZOE JOHNSON

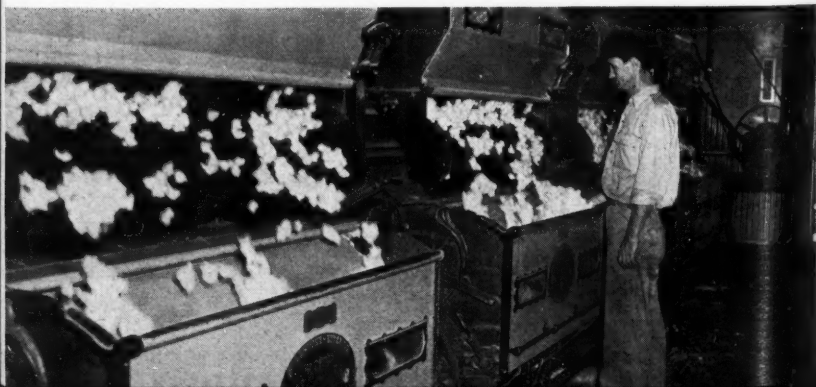
WILSON, Ark., center of what is believed to be the largest cotton farm in the world, uses butane to dry its thousands of bales of cotton for ginning, fuel its luxurious dwellings and cook for its tenants.

Wilson plantation is a community of approximately 2000 with every kind of enterprise common to any town; inn, cafe, grocery, beauty and barber shop, filling station; post office, school and church. Everything in Wilson except school and church is owned and controlled, their personnel hired and

paid, their rent collected by the Lee Wilson Co. The patronage and influence of this firm supervises and contributes to their ultra modern public school and the church. Uncle Sam still scratches his signature to the appointment of the postmaster, but Lee Wilson owns the building.

Children of the Wilson families are driven about the plantation by a big, uniformed Negro chauffeur, for Wilson clings tenaciously to shreds of its old Southern heritage that has all but vanished and the Negro is also vanish-

Cotton leaves the dryers and drops into the gins in plant at Wilson, Ark.



5%

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influ-
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public
Sam
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r, butes are
a big,
r Wil-
of its
all but
anish-

**NO QUESTION
of Satisfied
Customers with
this
Complete Line**



MODEL 9285 PAC



MODEL 9290

Modern Maid

GAS RANGES

With Deluxe features brought to the popular price field, prospects sell themselves on the beautiful new **Modern Maid** line of domestic cooking ranges. **Modern Maids** are the answer to your dreams of a fast-moving, high-prestige product . . . they answer your customer's dreams of a long-service, up-to-the-minute cooking appliance.

Designed especially for use with LP-Gas, the **Modern Maids** combine rugged, long-life construction with sleek modern design. Each oven is porcelainized inside and out, insulated heavily with Fiberglas. Each burner has an individual drip pan, and manifold covers are recessed for cooler gas cock handles.

**There is a Representative
or
Factory Warehouse in
Your Vicinity
WRITE US FOR DETAILS**

TENNESSEE STOVE WORKS
Three Generations of Stove Building
CHATTANOOGA 1, TENN.



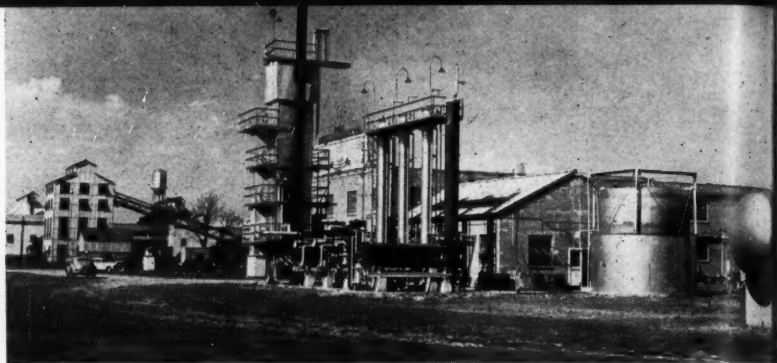
MODEL 9000



MODEL 77-P



MODEL 77



The Delta Products Co. cotton gin plant, showing LP-Gas storage tanks at right.

ing for this year Wilson had to import 300 Mexican laborers to chop cotton.

Wilson is in the northeast part of the state in Mississippi county, one of the largest cotton producing areas in the United States or the world. Its biggest crop was 300,000 bales per year and 250,000 is its lowest production except in years of extreme drouth.

Mississippi county, with Wilson near its center, lies in the rich sunken lands of the Mississippi valley which only a few years ago were covered with immense forests that have been cut away for timber, leaving the land as treeless as a Texas prairie.

R. E. Wilson, founder of the Wilson family, was an early promoter of the drainage system that drained this vast fertile territory of the swamps left where the timber once stood and placed it on a par with the richest farming lands of the world . . . and where now butane runs gins, fuels thousands of tractors, and brings modern comfort to innumerable isolated homes.

Lee Wilson, born in 1863, laid its foundation with 160 acres of land. In the hard Reconstruction period it took him seven years, tending his own land and renting more, to accumulate \$150 cash.

This hard-earned money went into a small sawmill; he traded his rich 160 acres of land for 2100 acres of swampy timberland and Lee Wilson was on his way to success.

He bought more land and floated more lumber down the Mississippi and bought more land and put in more sawmills, and had grocery stores at the mill sites.

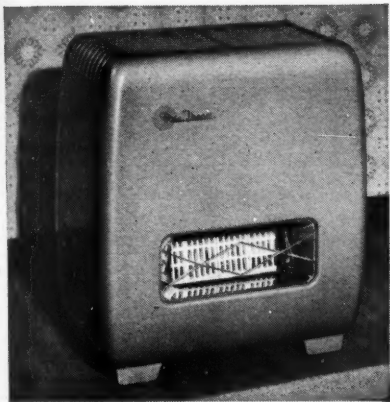
As quickly as possible after clearing the land of timber he put it to the cultivation of cotton. His interests expanded and reached into other fields, beginning the transition that grew into the present day industrial-agricultural organization that has been so widely publicized. Originally the plantation boasted 40,000 acres.

The entire company is now owned and administered by R. E. Lee Wilson, Jr., and R. E. L. Wilson III. With more than 25,000 acres under cultivation and 80 businesses under the guidance of the company, thousands of people depend on the payroll of the Lee Wilson Co.

Last year they had 4700 acres in cotton, 4500 in soybeans, and 800 in alfalfa in the vicinity of Wilson, and other large farms of comparable acreages.

At Delta they process 250 tons of

Sell **DUO-THERM--** the new standard in gas home heaters!



You can count on Duo-Therm to give you the right selling combination. Here's a shining example of it:

**Stand-out Styling,
with an open front
that means closed sales.**

Here's the Mayfair with glass-protected Firelight Front. Every inch a beauty, with smoothly contoured, ultra-modern design and handsome Sunglow enamel finish. And you know how customers will go for the cheerful glow behind that grille! Choice of 2 capacities—23,000 and 33,000 BTU inputs. (Also available in both capacities with louvered front.)

A few of the features in these new-standard heaters

Exclusive Duo-Therm Equaflame Burner—efficient, economical, clean-burning and quiet all the way from low to high fire.

Revolutionary All-in-One Control—simple, compact unit complete with fully automatic shut-off, pressure regulator, and control dial with built-in safety catch.

Flexible Down-Draft Diverter

—easily rotated for a neat, fast-installed vertical or horizontal flue connection.

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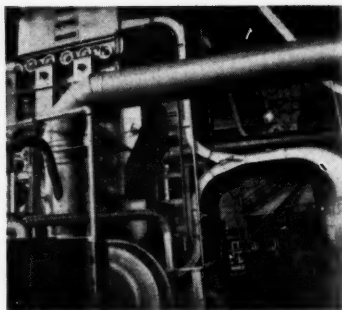
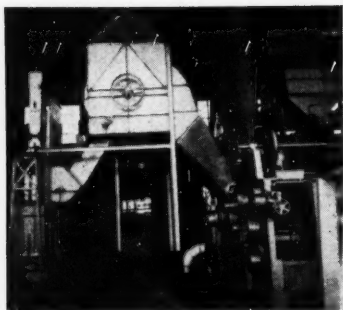
Duo-Therm gives you full profits, competitive prices and generous discounts. For complete specifications, write: Duo-Therm Division of Motor Wheel Corporation, Lansing 3, Michigan.

Approved by the American Gas Association

DUO-THERM

The new standard in LP gas home heaters

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Interior view of cotton gins at Wilson.

cotton seed and 68,000 pounds of high grade oil daily.

The Lee Wilson Co.'s soybean mill at Wilson handles approximately 30,000 tons of soybeans annually and they have three alfalfa dehydrating plants—at Evadale, Marie, and Keiser. But the center of all Lee Wilson expansion and enterprises is at Wilson where they employ approximately 1500 people in different capacities.

In 1948 Lee Wilson equipped all its gins with butane dryers, installed by the Hardwich & Etter Co., both at Wilson and on their other large farms.

The average number of bales ginned at Wilson is 7000 bales per season and the ginner, A. J. Landrum, says the butane dryers speed up ginning time 25%, making it possible for him to average 200 bales per day at the Wilson gin, with a great saving in costs over fuels formerly used.

Wilson is an old town, hewn by hard work from a swampy wilderness long before butane was dreamed of. Today butane has modernized the homes and offices and plants of this gigantic agricultural-industrial industry and is in the houses of employes and the small houses of tenants that skirt the cotton

fields. It has revolutionized living habits and advanced the processes of many agricultural operations of the Wilson district, and the entire state of Arkansas, as well.

Bastian-Blessing Co. Offers Scholarship at Southern Tech

The Bastian-Blessing Co., manufacturer of LP-Gas equipment and supplies, recently announced it has again contributed funds for a two year Bastian-Blessing scholarship in gas fuel technology to be awarded to a technically minded young man interested in a career in the nation's fastest growing industry. The fall term starts in September.

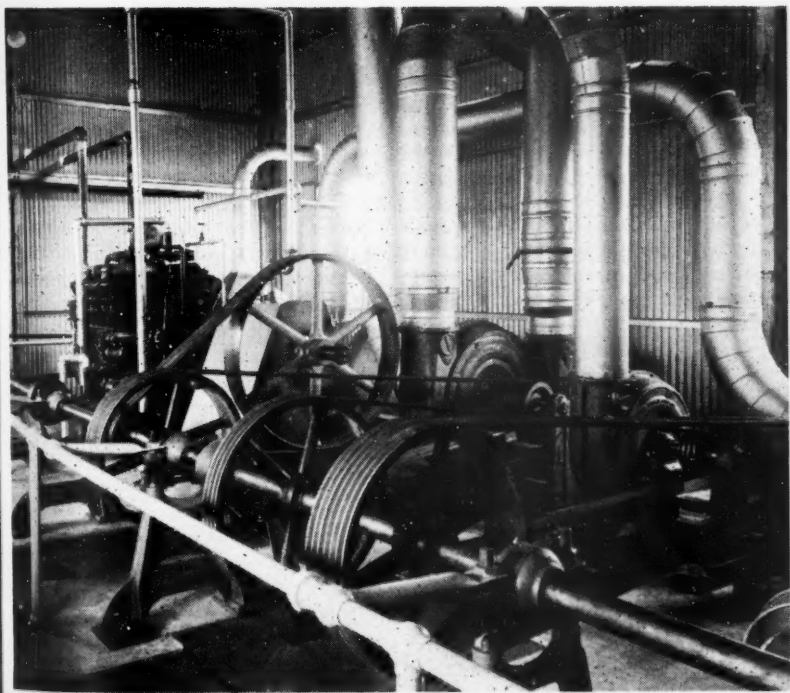
The Gas Fuel Technology Institute, of Southern Technical Institute, a Division of Georgia Tech, Chamblee, Ga., was established two years ago under the supervision of the Liquefied Petroleum Gas Assn. to provide the LP-Gas industry with much needed trained technicians. The first Bastian-Blessing scholarship award was established in 1950. It was won by Danle Goldson of Columbia, S. C.

LPG-PROPANE **POWER** SECTION

Installations

CARBURETION

Conversions



LPG engines play major role in corn plant in Southern states

Cold Manifolds, Precision Tune-Ups

Boost Power and Performance

JUST as important as checking out the fuel, carburetion and pressure systems on a LP-Gas-fueled truck or tractor is the practice of thoroughly analyzing the ignition system and its component parts.

That is the statement of Max Ellis, head of Ellis Manifold Co., Los Angeles, and one of the pioneers of cold manifolds for both LP-Gas-fueled engines and dual carburetor gasoline engines. Mr. Ellis states that 75% of the operational "bugs" on LP-Gas-fueled tractors and trucks are traced directly to ignition. The high octane ratings of butane and propane fuels demand efficient ignition characteristics—good, strong spark and precision timing—in order to insure maximum performance.

A routine check-out of LP-Gas engines therefore begins with ignition. First, coils and condensers are tested for capacity and are matched. They not only must meet minimum requirements for the rated horsepower of the engine, but must have substantial reserve capacity for operation under heavy load. The battery must put out 6 to 7.2 volts, no less. Where more than 7.8 volts are found in the primary circuit a condition of overload exists and a change must be made.

Distributor point setting (or cam angle) is checked next, along with the condition of the points. In this respect it is an accepted fact that matched coil and condenser with reserve capacity keep point pitting and arcing to a minimum.

Distributor bushings and bearings should be checked for play. Excessive wear in the shaft can mean the difference between a smoothly running engine and a rough fuel burner. The points must break to the proper clearance with each rotation.

Then, when the ignition system meets the above requirements, the serviceman is ready to tackle the carburetion system. This sequence of operation is of primary importance to the serviceman or trouble shooter. Ignition must be perfect first—as a basis for checking, adjusting and/or modifying the carburetion system.

Max Ellis, proponent of the precision tuneup noted above, went into business in 1938 and his first products were butane-propane manifolds. Subsequently, and as a result of his experimentation with LP-Gas fuel products, he developed the cold-running, dual carburetor manifold for gasoline engines.

Two revolutionary concepts of

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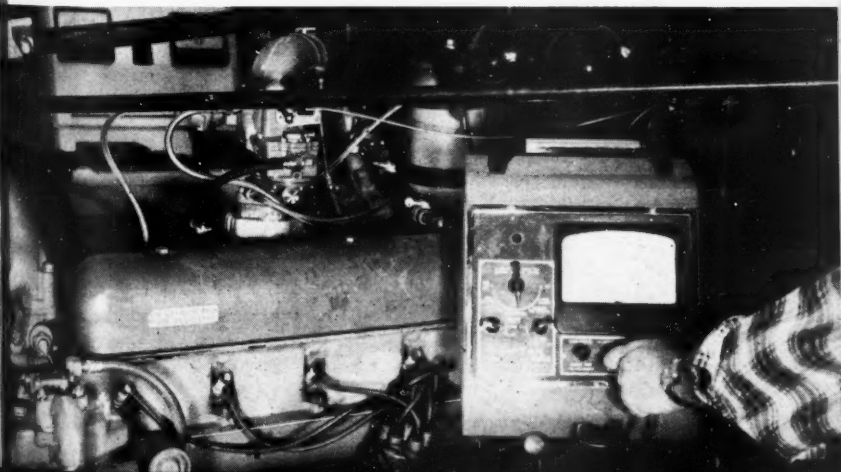
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News



The LP-Gas manifold is a separate unit and has no connection with the exhaust manifold. The accordion-like vapor fuel tube shown is a standard gas-mask hose which is ideal for its present application. Note also the flexible hose lines which are used between firewall and engine where movement would adversely affect copper or steel tubing.

Tuning up an LP-Gas converted truck begins with the check-out of the ignition system. A tachometer is watched closely for variance of rpm as spark is advanced.



carburetion were the net result of that experimentation, although years passed before the automotive industry accepted the theories. An understanding of Ellis' trend of thought will be of value to the serviceman trouble shooting or converting LP-Gas-fueled trucks and tractors.

Gasoline fueled engines were designed on the following premise: (1) With single carburetion it is necessary to heat the air-fuel mixture to assist vaporization in the intake manifold—thus, the manifold must be heated; (2) it is also necessary to increase the velocity of the mixture through the manifold in order to deliver the mixture to the combustion chamber with a minimum loss of gasoline droplets and to prevent resultant fuel puddling in the manifold—thus, necessary to use a small-diameter manifold to increase the velocity of a given volume of mixture.

Theory Back of the Plan

Ellis theorized that by utilizing dual carburetion and thereby decreasing the distance from carburetor to farthest cylinders he would reduce the fuel waste through puddling. He would reduce the necessity for appreciably heating the mixture. He would also reduce the necessity for high velocity because of the shorter distance and the more nearly perfect vapor he injected through dual carburetion.

He concluded that he would be able to use a cold intake manifold with a larger diameter. The cold manifold offered another advantage. Instead of expanding the va-

por in the manifold it brought more weight mixture into the combustion chamber where it expanded more efficiently and at the best possible point—in the cylinder.

Pre-Heating Fuel Unnecessary

Since LP-Gas is the most nearly perfect fuel, a stable vapor with no separation or puddling characteristics, it is not necessary or desirable to pre-heat or give it high velocity. In fact, the opposite is true. What was definitely needed was the delivery of a greater volume of LP-Gas air-vapor mixture to the combustion chamber because that mixture is less dense than gasoline and thus provides less Btu per pound.

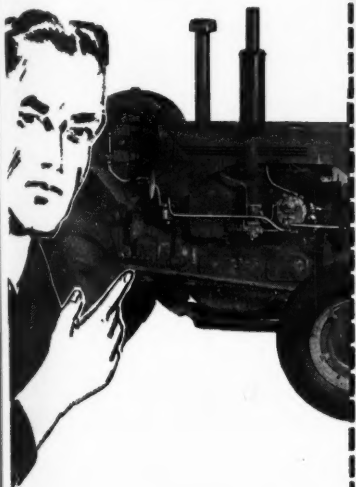
The large-capacity cold manifold for butane-propane conversions on trucks and tractors was born.

Today many of the purchasers of Ellis manifolds have them installed and a conversion tune-up at the Ellis factory. In response to this demand, a service department has been established at his plant that is completely fitted with test equipment. Included are testing instruments for the complete ignition system, air-fuel ratio analyzer and a chassis dynamometer.

"Conversion and servicing of trucks and tractors today is more than a question of installing tanks or conversion kits," he points out. "That is a point that LP-Gas dealers, servicemen or automotive mechanics are recognizing."

In conversions or periodic check-ups at the Ellis plant the truck or tractor is put through ignition

this is the carburetion
that has made
butane-propane
a successful engine fuel



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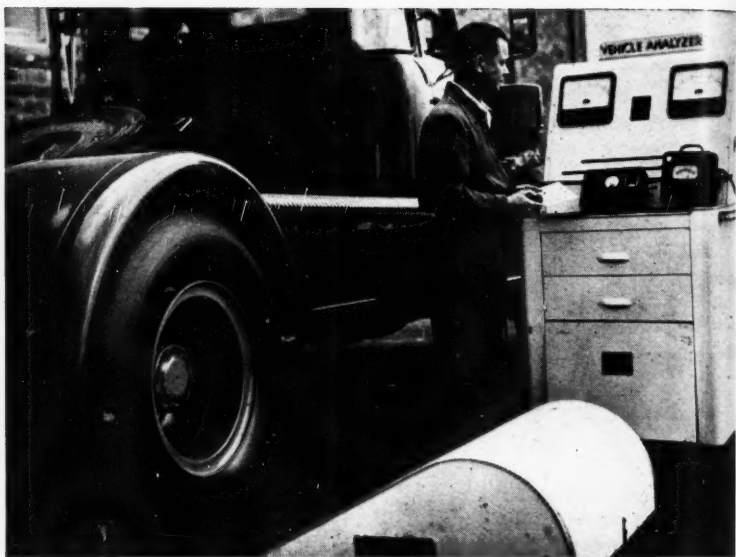
Our designs and methods have been closely followed by others—our position in industry often challenged. But in the final analysis, the satisfaction to the ultimate consumer and his dealer determines the value of any piece of equipment.



The Ensign Model Kgl Carburetor and
Model "R" Butane Regulating Unit

Another thing about ENSIGN: Our standards of design are so carefully planned that you can readily obtain parts for carburetors more than 25 years old.

Yes, temporarily we're in a tight spot for deliveries, but far-sighted users know the worth and dependability of ENSIGN products. Many old customers who can't obtain ENSIGN today know that we'll be around to help them out later.



Max Ellis takes a reading on rpm and horsepower generated at the drive wheels from a chassis dynamometer vehicle analyzer. Note the spinning drive wheel. The equipment simulates actual road conditions with the truck under load and power.

tests first, as noted above. Then, with engine idling the fuel is adjusted to the proper mixture as indicated on a vacuum gauge.

A Clayton chassis dynamometer, measuring up to 300 h.p. at the drive wheels, is used for part and full-throttle fuel adjustments. The instrument transmits horsepower delivered at the wheels to a meter and also indicates the road speed at which the wheels are turning. With this instrument, any operating condition encountered on the road may be duplicated without taking the vehicle out of the shop.

Part-throttle fuel-air mixture is adjusted to maximum horsepower at a given speed. Full-throttle adjustments follow until maximum horsepower at full speed is reached on the meter. Then the part throttle setting is readjusted to compensate for the fuel mixture change incurred at full throttle.

Maximum power on LP-Gas fuel is generally reached at a peak ratio of about 13 lbs. of air to 1 lb. of fuel read on a gasoline air-fuel ratio analyzer.

Tests run by independent purchasers indicate that the greater

"breathing" capacity of oversize manifolds substantially increases the horsepower of a given engine. Dynamometer tests conducted by the J. F. Dixon Co., of Los Angeles, showed that a certain engine converted to LP-Gas fuel developed 87.5 h.p. with the original manifold compared to 104 horsepower with the special Ellis manifold.

Mr. Ellis believes that the major market for his manifolds lies with "long haul operators" in the trucking industry who want to put their trucks on the road with maximum economy and cuts in maintenance and repair costs.

He reports that the majority of his sales were in the Pacific Coast area until recently when the Middle West stepped out in front.

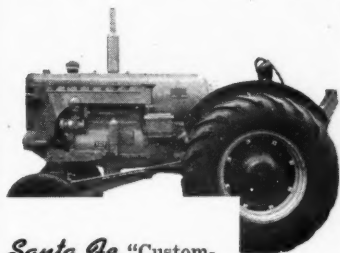
"The butane manifold will materially increase the horsepower and performance of any stock equipped engine," he points out. But application in the tractor field is not mandatory, as it is in the truck industry.

Trucks operate at high engine speed or high load, or both, most of the time, whereas tractor engines operate at moderate speed and under fairly constant load most of the time.

But the precision tune-up is the most vital thing the LP-Gas dealer or mechanic can keep in mind in the average installation or check-up, according to Mr. Ellis.

That is an authoritative statement when it is considered that it comes from a man who is primarily concerned with giving the customer the maximum value from his LP-Gas powered equipment.

Santa Fe "Custom-Built" L-P GAS TANKS FOR TRACTORS AND TRUCKS



Santa Fe "Custom-Built" LP-Gas Fuel Tanks are specified as standard equipment by many tractor manufacturers. They are available for any Tractor, Truck or Bus requirement.

Designed for fast, simple and inexpensive installation. Many stock models are available, including brackets—others are fabricated to specifications. They are licensed and bonded in states where required. Tanks comply with N.B.F. U. requirements. U.L. approved valves—excess flow protection.

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TAXICABS offer Sales Outlet

for Small-Town Dealers

THE uncertainties arising from the present military situation are causing many taxicab operators to look into the LP-Gas fuel situation. Saving in fuel cost is not the principal reason. They could have been enjoying this same saving for years, but gasoline was so convenient.

The shortages of gasoline and replacement vehicles which resulted from increased military requirements during World War II are still too fresh and too painful in the memories of the taxi operators for them to view the present world situation with unmixed calm.

Opens New Field

For years the taxicab business has been largely overlooked by the LP-Gas carburetor people, and this situation was what you might call mutual. The taxi operator did not bother much about LP-Gas.

In the postwar wave of conversions, the carburetor producers devoted most of their attention to the truck, tractor, and industrial fields, where fuel consumption was high, and the payoff on the conversion expense was quick, and sales were relatively easy. The passenger car business did not attract, because in most cases it required a long time to pay back the installation cost out of savings.

Taxicabs are in between—they are passenger cars which consume more than the average amount of gasoline. During the past year, a number of cab operators have found that the saving

By CARL ABELL

in fuel cost will offset the expense of conversion in a reasonable time, and that engines wear less and last longer on LP-Gas fuel. The news is getting around through the industry, and interest is building up. Sales are becoming easier, so it might be a good idea to take a critical look at this ready-made market for LP-Gas.

What the taxicab industry offers the LP-Gas distributor is volume throughout the year. Instead of correcting the seasonal peaks and depressions, there will be cases where the consumption will be a little higher in the winter than in the summer. Deliveries, however, will be in fairly large dumps, close in, and without the difficulties and extra expense which characterize rural deliveries in bad weather. Taxicab operation is a cash business, and



Typical taxi unit in small-town service.

most operators are able to pay their bills promptly.

Taxicab fleets of varying sizes exist in nearly all towns and these are attractive prospects for conversions and fuel sales for the local dealer.

The operators are interested principally in the following factors in connection with LP-Gas. It is abundant and cheap, and there are no indications that the supply will be short in case we get drawn into a large scale war. The military and export fuel will be gasoline—propane will stay at home. Every gallon of LP-Gas that is used for power fuel in this country will release nearly a gallon of gasoline for military use. That might be very important. The motor bus industry, considering these same factors, is undergoing a great wave of conversions.

Improves City Driving

Propane is not only a good substitute for gasoline—it is a better fuel for any metropolitan type of operation than gasoline, because under the start-stop, excessive idling conditions predominant in city service, the rate of wear with LP-Gas is definitely less. If cars become hard to get, as they are likely to be, then it will be extremely important to make the present cars last longer.

The principal evils which beset engines in the cold types of service are crankcase dilution and the formation of a cold type of crankcase sludge which is highly acid, and which contributes greatly to the rate of wear in the cylinders. Crankcase dilution does not exist with LP-Gas. In its free state, propane is a gas at all temperatures above -44°F . That's right, 44 degrees below zero. Commercial propane contains a certain amount of butane, which is not quite so stubborn about being gaseous. It condenses into liquid at 32°F —above zero—which is still quite a bit below the temperature of a taxicab crankcase.

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to handle the fastest-
selling LPG carburetor
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OF COURSE IT'S

ROADMASTER LPG CARBURETOR

**Model UT-2
Vaporizer and
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for primary and
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Vaporizer
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easy installation.



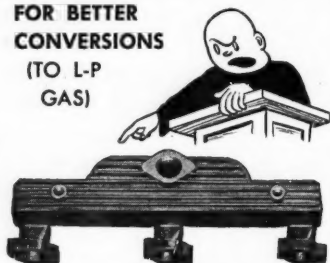
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GAS DISTRIBUTORS,
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LP-Gas burns much cleaner than gasoline. It leaves almost no free carbon, and contains no lead to leave deposits. Engines operating on the straight gas fuel keep remarkably clean in the crankcase. Mechanics who have been working on propane fueled engines for many years report that they have never seen a case of "crankcase mayonnaise" (winter sludge) in one of these engines. The oil stays clean. Most LP-Gas users set their drain periods at least as high as 5000 miles—sometimes higher. Because of the freedom from crankcase dilution and relative absence of cold corrosion, the period between major engine overhauls is frequently three times as long as the same vehicles were previously able to go on gasoline.

Besides prolonging the life of the vehicle, the taxicab operator sees another great advantage in the lessened frequency of overhauls. Putting a taxi in the shop for repairs is a double expense. The operator is not only out the cost of reconstruction, but also out what the cab would earn if it were out picking up fares.

The taxi operator will need to make up his own mind whether to make a complete conversion, and eliminate the gasoline system, or put on an adaptation which will enable him to change back to gasoline temporarily in emergencies. There are good arguments to back up either procedure.

More Power Produced

With the complete conversion, engines are no longer limited to a gasoline compression ratio. Pure propane has an octane rating of above 110, and the commercial mixture is well above 100. The compression ratio can be raised to the mechanical limit of the engine, and when this is done, it will produce more power, and probably more miles per gallon than was possible with gasoline.

Those who favor this type of con-

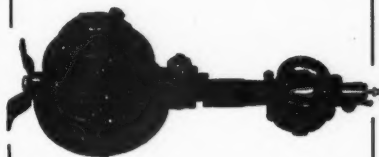
version point out that with the standard compression ratio for gasoline, which is advisable when using a two-fuel system of carburetion, there is some loss of power, and a reduction in miles per gallon while operating on LP-Gas.

The other side of the picture is that every once in a while a taxi driver runs out of fuel. When it happens with gasoline, he just brings a gallon from the nearest service station, and goes on about his business. Suppose he had a propane fueled engine, and after a busy day around town he got drafted to take a traveling salesman to the next town. Suppose that on that trip he ran out of propane. Where would he get more? He could wait until a propane bulk delivery truck passed that way, or he could get the cab towed to a propane service pump. Such a situation is not conducive of customer good will. When operating on LP-Gas only, it is quite important not to run out of fuel.

Gasoline Reserve System

The two-fuel type of carburetion answers this problem by making it possible to switch immediately from the empty LP-Gas tank to the reserve of gasoline which is carried in the other tank. The possibility of operating part of the time on gasoline, however, makes it inadvisable to raise the compression of the engine beyond that which is satisfactory with the gasoline which the operator uses.

If the operator insists on using regular grade gasoline for his reserve, no change should be made in the standard compression ratio—he is crowding it already. If he will use Ethyl gasoline, then a moderate raise can be recommended. The small loss of power which results from using LP-Gas in a gasoline compression ratio will be apparent only during acceleration and on hill climbs, which are a small percentage of the operating time. Any loss in



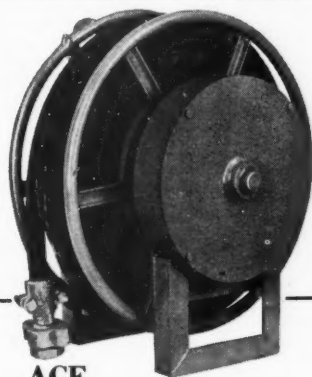
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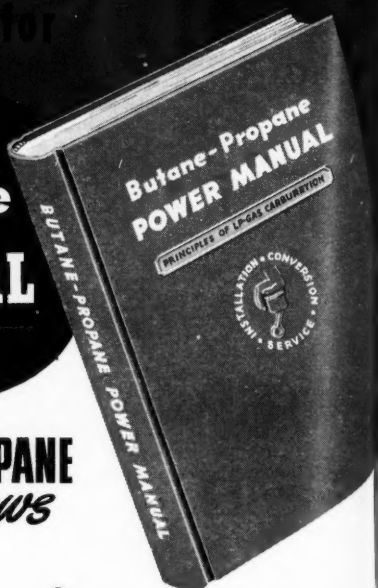
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The Book an entire industry
has been waiting for

Butane-Propane POWER MANUAL

Published by **BUTANE-PROPANE**
News



The Butane-Propane Power Manual is the first authoritative guide ever published for the rapidly expanding LP-Gas Power Market. It is full of sound technical information, much appearing in print for the first time.

Thousands of bulk plant operators, dealers and servicemen have found they need more facts on installation methods, equipment and service. The Power Manual gives these facts. It contains complete specifications and step-by-step directions. It shows how to handle this new business profitably and with assurance.

About the Author . . .

Carl Abell is nationally known as a technical lecturer and writer on automotive subjects. A member of the S.A.E. for over 20 years, he has contributed many of the articles published in Butane-Propane News on LP-Gas engines.

He has been identified with the automotive industry on the West Coast and in New York since 1921, having been employed as technical writer by Fageol Motors, American Car and Foundry Co., Hall-Scott Motor Car Co., and the Ethyl Corp.

A deluxe edition in handy pocket-size for ready reference

The Power Manual is profusely illustrated with actual photographs of installations. Diagrams and engineering drawings show each step in installation and servicing . . . the tools you need, testing methods, typical problems and how to solve them safely and quickly.

350 Pages

Size: 5 $\frac{5}{8}$ " x 7 $\frac{1}{8}$ "

**Heavy-Duty
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PART 1

The Basic Facts of Fuel and Power

- The Nature of Various Automotive Fuels
- Basic Engine Facts
- The Nature and Control of Combustion
- Factors Affecting Economy and Power

PART 2

LP-Gas Carburetion

- LP-Gas Carburetors
- The Regulator or Converter
- Fuel Supply—Vehicle Tanks and Equipment
- Natural Gas Carburetion

PART 3

Making the Conversion

- Planning the Installation
- Checking the Engine Condition
- Raising the Compression Ratio
- Cooling Intake Manifolds
- Truck and Bus Conversions
- Tractor Conversions

- Passenger Car and Taxi Cab Conversions
- Industrial and Special Applications
- Ignition Problems

PART 4

Installing and Adjusting LP-Gas Carburetors

- Principles Applicable to All or Several Makes
- Instructions for Installing and Servicing the Various Makes of LP-Gas Carburetors Now on the Market.

PART 5

Maintenance and Trouble Shooting

- Lubrication of LP-Gas Engines
- Trouble Shooting

PART 6

Bringing in the Business

- Selling LP-Gas Carburetion
- The Storage and Handling of LP-Gas

Appendix

Handy Tables in Text

Ready November 15th

Pre-Publication Price \$3.50

Less 20% in quantities of ten or more.
In California, add 4% for sales tax.
Orders from individuals must be accompanied by amount of purchase unless credit has been established.

BUTANE-PROPANE NEWS

A JENKINS PUBLICATION

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miles per gallon will be less than the difference in fuel cost, so there will still be a saving on the fuel bill.

Within these limits, the operator may take his choice. He can save a little more money by going all out for LP-Gas, high compressioning the engine as much as possible, but ruling out the use of gasoline as an emergency fuel. Or he can save a little less money and have the assurance of a duplicate fuel system which can be put into service on a moment's notice. Either way he chooses, there is a wide variety of equipment from which the operator may choose.

Fuel Tank Selection

The fuel tank for taxicab service should be selected with care. It must go in the trunk. There is a spare tire there, which must be immediately

available. This limits the possible length of the tank. Many cabs are equipped with two-way radio, the mechanism for which is also carried in the trunk. This may be large enough to limit the diameter of the tank. The tank should carry enough fuel for a full day's operation. It looks like a problem of making careful measurements, and doing the best that is possible with that particular make and model.

There are a limited number of makes of vehicles which predominate in taxicab service. They offer a volume which should be sufficiently attractive to lead carburetor manufacturers to put out standardized kits for these leading makes. This should simplify installation procedures and reduce installation costs.

John H. Webb Joins Staff Of Century Gas Equipment

John H. Webb has joined the Century Gas Equipment Co., Lynwood, Calif., manufacturers of Century LP-Gas carburetors, in an engineering and sales capacity.

Mr. Webb is well known in automotive circles throughout the nation. He came to Century from the Hall-Scott Motor Car Co., Berkeley, Calif., where he was employed for 22 years. While at Hall-Scott he served in the engineering department, and was assigned as Eastern service manager from 1940 to 1945.



JOHN H. WEBB

During recent years Mr. Webb has specialized in the LP-Gas developments carried on by that company at Berkeley.

Mr. Webb's work at Century will include both sales and service engineering. Much of his time will be spent in working with truck and tractor manufacturers in the East.

Pre-Packaged Conversion Kits Offered by A. O. Smith Corp.

The carburetion division of A. O. Smith Corp. is featuring a conversion kit containing all of the parts needed for the basic installation regardless of what type vehicle it is to be used on. Depending upon whether the installation is for a highway-type vehicle with a single venturi carburetor or dual venturi carburetor, a suitable supplementary kit is supplied.

A third supplementary kit for farm tractors is included inasmuch as the



Pre-packaged installation kits manufactured by A. O. Smith Corp.

spud-in fitting for farm tractors is slightly different in size from the fitting used for highway vehicles.

By providing the kits in the above manner, the dealer, who is often remotely located, has everything he needs for the installation except the fuel tank and copper tubing. This enables the dealer to furnish a "pre-engineered" package which he can take right off his shelf and sell as a complete outfit ready for installation.

K. A. Conningham Resigns From Honolulu Companies

Kenneth A. Conningham has resigned his posts as treasurer of Honolulu Gas Co., Ltd., assistant treasurer of Pacific Refiners, Ltd., and secretary-treasurer of Hilo Gas Co., Ltd., effective July 31. Headquarters for all the companies is in Honolulu.

Mr. Conningham was one of the five incorporators of Pacific Refiners, Ltd., when the company was formed

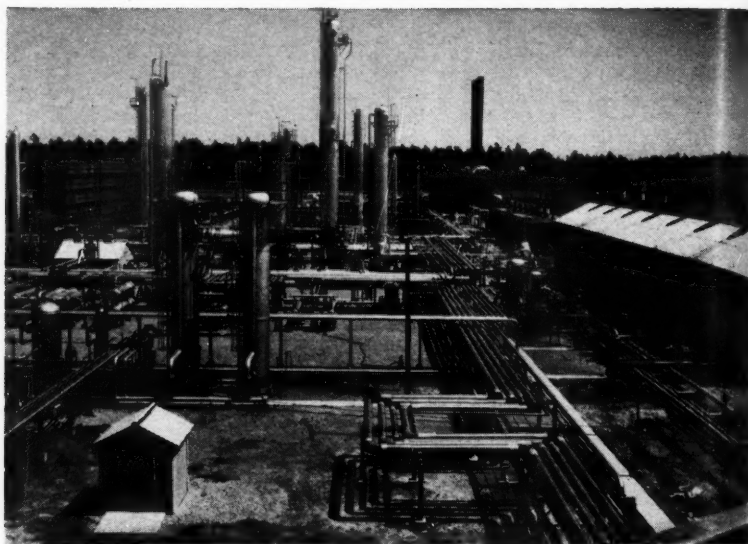
in 1949, and has been with the Honolulu Gas Co. and affiliated organizations since 1946.

No successor to Mr. Conningham has been selected, company officials said. He plans to vacation on the mainland during August and September.

Magnolia, Ark., Plant Will Produce Butane

The Carter Oil Co., Tulsa, Okla., announces the increased capacity and re-opening of the McKamie gas cleaning plant at Magnolia, Ark., after a five-month shutdown.

This plant, operated by Carter, who is a major interest owner in the field, has a capacity capable of producing 31,000 gals. of butane and isobutane daily and 30,000 gals. of gasoline. Plant expansion is the outgrowth of a comprehensive conservation program instituted by the 41 oil and gas operators in 1949 when the McKamie-



Carter's Magnolia plant where butane will be made.

Patton field was unitized and a compressor station built.

By injecting more than 50 million cu. ft. of gas daily into the McKamie-Patton pool, total recoveries will be increased by approximately 9,500,000 barrels of oil and as much as 50 billion cu. ft. of gas.

Howard Waddle, Magnolia manager of the company, says the plant will also process sulphur gas to produce an equivalent of 150 tons of sulphur daily. It is one of the largest sulphur gas cleaning operations in the United States.

NGAA Announces Meeting For 1952 Convention

The 31st annual convention of the Natural Gasoline Assn. of America

will be held in the Rice hotel, Houston, April 30-May 2, 1952, according to a recent announcement from NGAA headquarters in Tulsa. This will be the first time the NGAA has ever held a convention in Houston and it is expected that representation from the Gulf Coast and other southern areas will be unusually large.

Three regional meetings have also been scheduled. The first of these, jointly sponsored by the East Texas Natural Gasoline Men's Club, will be the Southern Regional at the Blackstone hotel, Tyler, Texas, Oct. 19. The Panhandle-Plains Regional will be held in the Herring hotel, Amarillo, Dec. 7. The Permian Basin Regional is scheduled to be held in Odessa, Texas, early in February.

CALENDAR

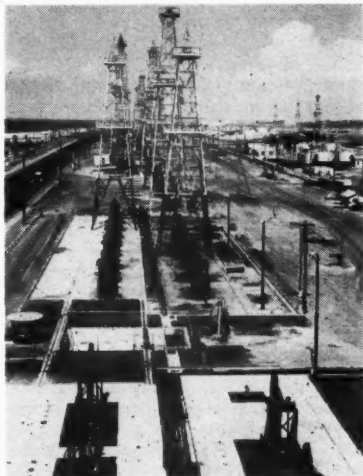
- Sept. 10-11—Virginia Liquefied Petroleum Gas Assn. Convention. Hotel Roanoke. Roanoke.
- Sept. 10-12—Eastern LP-Gas Service School. University of Bridgeport. Bridgeport, Conn.
- Sept. 13-14—LPGA Board of Directors. Brown Palace Hotel, Denver.
- Sept. 14-15—North and South Carolina LP-Gas Associations Joint Meeting. Ocean Forest Hotel. Myrtle Beach, S. C.
- Sept.—Idaho LP-Gas Assn. Pocatello.
- Sept. 16-18—New Mexico LP-Gas Assn. Annual Convention & Trade Show. Hilton Hotel. Albuquerque.
- Sept. 17—Pennsylvania LP-Gas Assn. Meeting. Penn-Harris Hotel. Harrisburg.
- Sept. 22—National Butane-Propane Assn. District meeting. Bismarck Hotel. Chicago.
- Sept. 23—Nevada LP-Gas Assn. El Cortez Hotel. Reno.
- Sept. 26—Androscoggin-Oxford LP-Gas Assn. Elms Hotel, Auburn, Maine.
- Oct. 1-3—Assn. of Nebraska LP-Gas Dealers. Annual convention. Hotel Paxton, Omaha.
- Oct. 4-5—California Natural Gasoline Assn. Ambassador Hotel, Los Angeles.
- Oct. 8-12—National Safety Congress. Chicago.
- Oct. 11—North Eastern District, LPGA. Hotel Statler. New York City.
- Oct. 19—NGAA Southern Regional Meeting. Blackstone Hotel. Tyler, Texas.
- Oct. 29—Kansas LP-Gas Assn. Annual Meeting. Broadview Hotel. Wichita.
- Nov. 5-8—American Petroleum Institute. Annual Meeting. Waldorf-Astoria Hotel, New York.
- Nov. 19-20—Montana LP-Gas Assn. Butte.
- Dec. 6-7—LPGA Board of Directors. Sheraton Hotel, St. Louis, Mo.
- Dec. 7—NGAA Panhandle Plains Regional Meeting. Herring Hotel. Amarillo, Texas.

Dealer Group Inspects LPG Production Facilities

The opportunity to see how liquefied petroleum gas is made, to stand on the floor of a drilling rig and witness the fascinating operation of boring for oil, and to have the intricacies of these processes explained was the recent good fortune of a group of California and Lower California (Mexico) dealers of the Signal Oil & Gas Co., Los Angeles, at the company's annual dealer party in August.

Signal's extensive drilling and producing operations on the Bolsa Lease near Huntington Beach, Calif., were utilized when this group was conducted through the field and told just how oil and gas are produced.

The final point of the inspection tour was Signal's Plant No. 11 located near Huntington Beach which



The Signal Oil field near Huntington Beach, Calif., where many of the wells are bottomed out under the ocean.



These three trucks haul approximately 475 cylinders from the Bupane Gas headquarters in Cedar Rapids.

processes the wet gas into the final LPG product. Top men of the Signal organization took over and carefully explained the methods used in this modern plant as the party observed all phases of its operation.

The group of dealers and Signal representatives then adjourned to the Pacific Coast Club in Long Beach where an informal social hour was followed by dinner.

In charge of the affair for Signal was R. W. Heath, vice president and manager of its gas department. He was assisted by J. B. Taylor, Jr., Harvey Menard, Fred Spears, J. Gordon Allard and others.

Doing Bulk Business On Cylinder Basis

Moving large quantities of propane long distances by cylinder-hauling trucks is considered a highly economical and profitable method of covering some 400 counties in six states by the Bupane Gas Co., of Cedar Rapids, Iowa, according to Otto A. Kohl, founder and president of the company.

Approximately 4000 gals. of pro-

pane, in 176 cylinders, are hauled in in the largest Bupane truck. Three other trucks haul a combined total of 475 cylinders from the Cedar Rapids headquarters. Similar trucks operate out of the company's other branches.

Bupane maintains bulk plants in Cedar Rapids and Mapleton, Iowa, and Peoria, Ill., from which 400 dealers are served, and after 17 years in the LP-Gas industry, the company serves some 50,000 cylinder customers scattered over six states.

Last winter 150 house heating jobs were served by cylinders at a cost of approximately one cent a gallon, indicating, Mr. Kohl believes, that his company is doing a bulk business with cylinders on an economical basis.

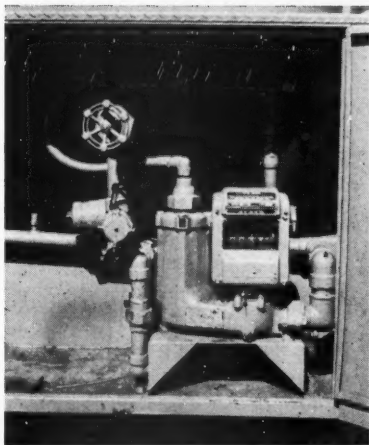
Named Protane's Sales Manager

W. J. Malchiodi has been appointed sales manager for Protane, according to President H. N. Forman. Mr. Malchiodi, who had been with Phillips Petroleum Co. for 18 years, will direct the sales activities of Protane's entire organization.

LP-Gas Wins Housing Project Bid Against Electric Competition

LIFTON PARK MANOR, a million dollar housing project located just north of Wilmington, Del., has 38 separate boiler rooms and 78 gas dryers operating on LP-Gas supplied by Schagringas Co., Middletown, Del. Before Milton Levinson, company manager,* explained the advantages of LP-Gas to the builders, electricity had been selected for the fuel. And since the installation, the builders have been enthusiastic over the operation of the equipment.

In addition to this large customer, the company, located 25 miles south of Wilmington, numbers its customers



Meter setup on delivery truck.



There was a fire—but the cylinder stood the test!

over the thousand mark and has set its goal at over 2000 for this year. Harry A. Schagrin started his own LP-Gas firm in 1945, after having been in the business as a dealer since 1931. His plant, constructed last year, consists of an 18,000-gal. storage tank and a cylinder filling room with a Smith pump.

The company has a 1600-gal. Butler tank truck and two service trucks, all operating on LP-Gas. Gas is metered from the truck to customers' 100- to 420-lb. cylinders. Large commercial installations have 500-gal. tanks installed with meters for customer convenience and satisfaction. A complete line of LP-Gas appliances

METERED... "SCHAGRIN GAS" Co. MIDDLETOWN, DELAWARE						INVOICE		RETURN THIS STUB WITH YOUR REMITTANCE	
PAY NET BILL BEFORE <u>May 12, 1951</u>			YOU SAVE 10 PCT.			DATE _____			
DATE	GALLONS	TEMP.	POUNDS OF GAS	GROSS BILL	NET BILL	AMOUNT _____			
<u>4/28/51</u>			<u>Minimum</u>	<u>2.20</u>	<u>2.00</u>	NAME _____			
BILLING PERIOD			PAST DUE BILL			ADDRESS _____			
FROM _____			OTHER			ACCT. NO. _____			
TO _____			TOTAL BALANCE			CALORIC RANGES GAS REFRIGERATORS GAS WATER HEATERS GAS SPACE HEATERS E-Z-TERMS INSTALL ANOTHER GAS APPLIANCE & REDUCE YOUR GAS RATE			
THIS BILL IS FOR 2 MONTHS									
<div style="display: flex; justify-content: space-between;"> <div>[</div> <div>Mr. William Greenday Chesapeake City, Md.</div> <div>]</div> </div>									

Invoice form used for metered gas customers
served by Schagrinas Co., Middletown, Del.



Cylinder filling plant and one of delivery tank trucks of
Schagrinas Co.



Cylinders of various sizes and the bulk plant used by the company in its
Delaware operations.

is on display in the company's downtown showroom.

According to Manager Levinson, the company is attempting to pioneer LP-Gas carburetion in its territory. Although there is a great deal of interest, he feels that due to the scarcity of large quantities and price differential with the Southwest, the development of the new market will be slow.

Mr. Levinson recently reported an incident which testifies to the safety and reliability of LP-Gas equipment.

A customer called the company and asked that his propane cylinder be removed "as they had no further use for it."

Upon questioning, it was discovered that the customer's house had burned to the ground. About five feet away sat the propane tank, safe and sound, but a trifle besmudged and flame-scorched.

Examination disclosed that the tank had vented properly under heat. The only damaged accessories were a regulator and the tank's valve seats.

Cause of the fire was said to be a faulty oil stove.

Townsend Co. Opens New Outlet in Marshall, Mich.

The W. S. Townsend Co. has expanded its operations by opening a new outlet in Marshall, Mich., recently. The company handles domestic appliances together with brooders, carburetion equipment for trucks and tractors, industrial torches, etc. The store will also serve as an outlet for filling and servicing tanks.

Branches in Four Cities

The company's bulk plant is located about four miles west of the city. Robert Caines will manage both the bulk plant and the store. In addition to Marshall, the company with Wayne Townsend as president, has dealers in Grand Rapids, Lansing and Jonesville.

Expansion of the present bulk plant is underway with 30,000 gallons of additional storage to be added. The bottled gas division of the company was formed in May, 1950, but the firm has been a supplier for the trailer industry for 3½ years.



Plant of the W. S. Townsend Co. before the new warehouse and 30,000-gal. storage tank were installed recently.

The Trade

Announcement has been made of the purchase of a controlling interest in the outstanding capital stock of the **James Graham Manufacturing Co.** by **Rheem Manufacturing Co.** The Newark, Calif., range manufacturer will continue under the management of **Clarence Graham, Sr.**, son of the founder of the 69-year-old firm.

According to Mr. Graham, the company will continue to manufacture and distribute the "Wedgewood" line of ranges but the company's ability to expand and its competitive position will be greatly improved as a result of the transaction.



JOHN ALLRED

M. C. Bolin, sales manager of the **LPG Division of McNamar Boiler & Tank Co.**, Tulsa, Okla., has announced the appointment of **John Allred** as salesman covering the states of North and South Dakota and Minnesota. Mr. Allred will work out

of the Tulsa office and will have charge of the sale of domestic systems, storage tanks, and related products in the above territory.

Eclipse Fuel Engineering Co., Rockford, Ill., has appointed **Charles W. Guptil** as representative, replacing

Henry E. Balsley, St. Paul, who retired in July. Mr. Guptil recently served as manager of the St. Louis branch office of **Bryant Heater Div.**

Arthur W. Coney, president of the **Coroaire Heater Corp.**, Cleveland, Ohio, has announced the appointment of **John E. Bogan** as western divisional manager. He will headquarter in the Cleveland office.

Mr. Bogan is well known in gas merchandising circles as well as in the gas utilities field, having served as head of sales promotion and merchandising for the **National Assn. of Gas Appliance Manufacturers** and vice president in charge of sales for **Universal Gas Range Co.**

Fred H. Haggerson, president of **Union Carbide & Carbon Corp.**, has been elected chairman of the board of directors. He has been president since 1944 and has been associated with the corporation for over 30 years.

Robert A. Johnson, formerly sales engineer in the Atlanta (Ga.) district office, has been appointed assistant sales manager of **LP-Gas products** for the **Rockwell Manufacturing Co.**, Pittsburgh, according to **A. J. Kerr**, vice president of sales.

Orville Cochran has been named supervisor of gas products and **Nordstrom valves** in the Rocky Mountain area, according to **C. R. Zeskey**, Kansas City district sales manager for

Rockwell. During his 25 years with the company, Mr. Cochran has served as head of the service department, sales engineer and field representative for Nordstrom valves.

John B. Link has been appointed valve engineer for the southern California area of Rockwell, according to H. Boezinger, Pacific Coast district manager.

J. H. Sells has been appointed head of Rockwell's New Orleans, La., office covering the New Orleans and Baton Rouge areas, according to C. K. Madison, Houston district manager.

Kalamazoo Stove & Furnace Co., Kalamazoo, Mich., has appointed Russell F. Ekrut to the position of general service manager. He was formerly associated with the Whirlpool Corp.

E. W. Sweeney, Little Rock, Ark., has been named sales training director for Delta Tank Manufacturing Co., Baton Rouge, La., and Macon, Ga., according to J. E. Ketner, general sales manager. Mr. Sweeney, formerly with Beals Advertising Co., will assist in coordinating Delta's advertising program with the dealers' sales and promotional plans, according to H. S. Phillips, Delta president.

A new warehouse with facilities for loading and unloading car load shipments both by rail and truck lines was completed recently by Anco Manufacturing & Supply Co., Tulsa, in Omaha, Neb. Representatives of the company located at the new warehouse are W. L. Rawlinson and W. J. Kelley.

Clarence E. Stender was recently elected assistant secretary-treasurer of Pressed Steel Tank Co., Milwaukee,

manufacturer LP-Gas cylinders. Mr. Stender has been with the company for 35 years.

The company has also announced the appointment of Martin Schmidt as Florida district manager working out of Lakeland, Fla. Before his new assignment, Mr. Schmidt was district manager for the Northwest territory.



JOHN GATES

John W. Gates has been named sales manager of Well Equipment Manufacturing Corp., Houston, according to H. J. Hagn, general manager. Mr. Gates, succeeding Tracy T. Word, Jr., has served the company since 1946 in various capacities.

From the manufacturing department he went to the sales department and was made manager of the Southern division. Early in 1950 he was appointed assistant sales manager, serving there until his recent appointment.

Plant No. 3 has been acquired by Ensign Carburetor Co. for expansion of the company's manufacturing operations. Assembly operations, stock rooms, ordering and shipping departments will be concentrated in the new building, releasing considerable space for expansion of manufacturing facilities in the main Ensign plant in Huntington Park, Calif., as well as in the Chicago plant.

W. Paul Jones, president of Servel, Inc., for the past two years, will become chief executive officer. Louis Ruthenburg, currently chief executive officer and chairman of the board, will

continue as chairman and devote a substantial part of his time to the company's activities.

Mr. Ruthenburg asked to be relieved of the position's duties due to his activities as president-elect of GAMA, a member of the executive board of AGA, and various other civic activities.

Elmer Lind has been appointed sales representative for the G. S. Blodgett Co., Burlington, Vt., in the states of Ohio, Michigan, and western Pennsylvania, according to Paul Grimes, sales manager of the company.

J. Doyle Moore has been named specialty products sales manager for "Comforteer" heaters, manufactured

by the Inland Steel Container Co., Chicago. He succeeds J. R. Pistorius who has been called back to active duty with the Navy, according to Gordon D. Zuck, vice president in charge of sales.

Fred H. Angier has been appointed district manager for the Philadelphia and Baltimore factory branch office of General Controls Co., Glendale, Calif., according to J. F. Ray, vice president in charge of sales.

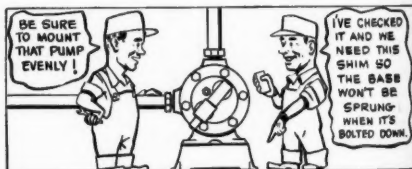
Succeeding Mr. Angier as branch manager in Baltimore is J. B. Crandley, formerly sales engineer in the Philadelphia office.

Robert L. Day has been appointed to the position of factory sales engineer. In his new position, Mr. Day will assist branch office personnel.

The company is also getting under

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When mounting a Viking Rotary Pump and bolting it down, be sure that the base is not sprung. Bolting the pump down over an uneven surface may cause binding and heating in the stuffing box. It may cause working parts of the pump to bind and wear beyond repair in a short time. The pump must be free enough to turn the shaft by hand.



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VIKING PUMP CO. CEDAR FALLS IOWA

way with another plant expansion program which will consist of the construction of a 24,000 sq. ft. addition to the present engineering building. The new facilities will be devoted entirely to research and engineering activities.

S. D. Andrews has been named branch manager of the Dallas office, replacing Robert Farmer who will return to the Glendale plant as a factory engineer.

M. A. Straub, sales manager of Norge Heat Div., Borg-Warner Corp., has announced two new regional managers. Fred Potter, with headquarters in St. Louis, will manage the territory comprising Kansas, Missouri, southern Illinois, Oklahoma, Texas, Arkansas, Louisiana, and Mississippi.

Ralph E. Rawles is regional manager for the states of Virginia, Kentucky, Tennessee, Alabama, Georgia, Florida, and North and South Carolina, with headquarters in Norfolk, Va.

Frank J. Nugent, sales manager of heating equipment, Ingersoll Products Div., Borg-Warner Corp., Kalamazoo, Mich., recently announced the appointment of R. E. Loebell as Eastern sales representative.

Allen Bechtel also was recently appointed a sales representative for heating equipment with territory including Ohio, western Pennsylvania, and western New York.

Charles E. Bulloch recently joined the A. O. Smith Corp., water heater division as assistant to the marketing director, S. E. Wolkenheim. Mr. Bulloch will handle special assignments in sales promotion and dealer relations.

Ron Shepherd, Philadelphia water heater representative for the company, has been assigned an expanded sales area to cover greater Baltimore and the states of Virginia and Delaware. J. S. McCollough will operate in

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High heat circulating gas heater easily converted into a deluxe fan-forced-air heater with interchangeable and inexpensive Oakland attachments.

Exclusive tubular inner heat surface provides this Oakland with greater heating area over which air can circulate and be warmed.

Operates either as a gravity unit or as a fan-forced-air circulator. Fan operates thermostatically or manually, as desired.

**One Model
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(Del.)**

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BARTLESVILLE, OKLA.
CHICAGO, ILL.

Other Sales Offices

Cleveland
St. Paul

Kansas City
Toronto

Maryland and Delaware and W. D. Furlong will cover the Washington, D. C., area, all under Mr. Shepherd.

Mell O. Haldeman Corp. of Los Angeles has been appointed A. O. Smith Permaglas and Duraclad water heater distributor for southern California, including both the Los Angeles and San Diego areas. Plans are being made to build a display trailer for demonstrations of water heaters to customers and prospects.

Harold Ames, Centralia, Ill., has been put in charge of propane plant installations for Drake & Townsend, Inc., New York City, in the Middle West area. Mr. Ames has had wide experience in the installation of water gas plants, low and high pressure distribution systems, and LP-Gas plants of all types for utilities and industries.

J. Norman Clark has been appointed Southeastern division service supervisor for Florence Stove Co., Gardner, Mass., according to C. P. Connally, Jr., southeastern division manager.

In his new position, Mr. Clark will work directly with Florence distributors and dealers in North and South Carolina, Georgia, Alabama, Mississippi, Florida, Tennessee, and eastern Arkansas.

Two new sales divisions have been announced by Minneapolis-Moline Co. They are: Southeastern division, Atlanta, Ga., with C. W. Brawdy as division manager, R. J. Kupper, assistant manager, and Frank E. Westfall, sales supervisor. The territory covers Florida, Georgia, South Carolina, and part of North Carolina.

The East-Central division (Louisville, Ky.), headed by Herbert C. Harrell, manager, C. W. Spigener,

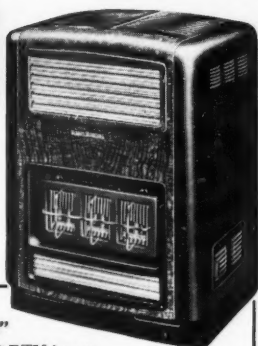
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Warm Morning LP-GAS HEATERS

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Insure Top Performance with Butane-Propane Gases

WARM MORNING LP-Gas Heaters are truly outstanding...any way you judge them! You can't miss selling this terrific line. A full range of sizes, 30,000 to 70,000 BTU input. Many great selling features, including:

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- Fully automatic or semi-automatic controls.
- A. G. A. approved.



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60,000 BTU input.
Other models for every heating requirement.

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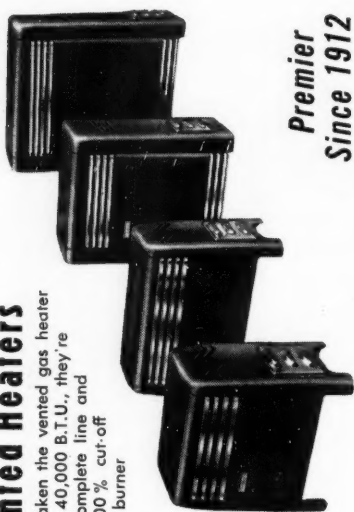
A Complete Line of Vented Heaters

Premier's four, beautiful new heaters have taken the vented gas heater field by storm. Ranging from 15,000 B.T.U. to 40,000 B.T.U., they're ready to make sales for you. Feature the complete line and you'll profit with Premier. Equipped with 100% cut-off safety pilot for L.P. gas. Efficient cast iron burner easily removed for cleaning, if necessary... a Premier exclusive!

Sell two PREMIER heaters for each installation. Provides better heat control... better heat distribution!



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100 SOUTH SIXTEENTH STREET
BELLEVILLE, ILLINOIS

Premier

assistant manager, and Russell F. Bosse and A. R. Armstrong as sales supervisors, is composed of parts of Tennessee, Kentucky, Virginia, Maryland, North Carolina, and Indiana.

Other personnel changes include the appointment of Wayne H. MacFarlane as liaison officer between the Avery plant, Louisville, and the Minneapolis office.

W. E. Lee is now assistant division manager of the Southern division in Memphis. O. G. Berry has been appointed a sales supervisor in the division.

Two district managers have been named: H. R. Colvin, in charge of the Northern, Northwestern, Midwestern, Southwestern, Western, and Pacific divisions. A. W. Huff, manager for Central, Eastern, East-Central, Southeastern, Southern, and Texas division.

A. B. Craig has been appointed assistant plant manager at Moline, Ill. Succeeding him as parts manager is Clarence Kroeger, former repair parts section head.

Charles J. Hardy, Sr., has resigned as director, chairman of the board, and a member of the executive committee of American Car & Foundry Co.

John E. Rovensky, who became director in 1940 and chairman of the executive committee in 1944, was elected chairman of the board. Charles J. Hardy, Jr., ACF president, was elected chairman of the executive committee.

A 30-page photo-booklet has been published by the Columbian Steel Tank Co., Kansas City, Mo., illustrating the devastating effects of July flood waters on the rich industrial area of Kansas City where the Columbian factory is located. Tanks of all sizes and types, completed and under construction, either floated

away never to be recovered or were damaged beyond repair. Without regard for order, storage tanks and pressure vessels, fabricated in separate departments, were found in a third area where bolted tank sections are prime painted.

When clean-up operations began, huge bulldozers and high loaders with invaluable assistance from the shovel brigade, were used in every department to clear the debris and get the factory into shape for production. In his foreword to the booklet, Columbian President J. M. Kramer states, "... on or about Sept. 1, we expect to be in full production again."

Construction of new general offices and plant facilities, comprising 133,000 sq. ft., is under way for Crane Packing Co., Chicago, according to Frank E. Payne, company president.

The new plant, located in Morton Grove, Ill., will facilitate production of the company's industrial packings, mechanical and oil seals, and precision lapping machines.

William H. Haag has been elected vice president in charge of manufacturing and purchasing by Perfection Stove Co., succeeding C. A. Blackburn who has retired. Mr. Haag was formerly manager of the Platt and Ivanho plants of the company.

In line with several changes in the administration of the natural gasoline department of Phillips Petroleum Co., K. S. Adams, chairman, and Paul Endacott, president, have announced the appointment of Roy M. Teel assistant to the manager of the department, George P. Bunn.

H. R. Legatski, formerly superintendent of operations, is now project development engineer for Phillips Chemical Co., a Phillips Petroleum



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subsidiary. Louis P. Sumpter succeeds Mr. Legatski as superintendent of operations.

Other changes include: W. L. Culbertson, chief engineer in charge of the engineering division; C. R. Ringham, director of the section of coordination and analysis of the engineering division; L. H. Moore, superintendent of the division of contracts and settlements, with R. H. Clark to direct the settlement section; H. R. Markley, assistant to Mr. Sumpter in charge of plant operations; and W. L. Phillips, western district superintendent at Odessa, Texas.

R. J. Sigafoos has been named chief engineer of the Twin Coach Co., Kent, Ohio. In making the announcement, L. J. Fageol, president, said that Mr. Sigafoos, who was formerly engineering assistant to the president, will combine those executive duties with the responsibilities of his new post.

C. M. Christensen has been transferred to the post of Western regional manager for Estate Stove Co., a subsidiary of Noma Electric Corp., Hamilton, Ohio, according to Gordon P. Hentz, general sales manager. Mr. Christensen will headquarter in San Mateo, Calif.

Three new members have been added to the sales staff of Vulcan Rubber Products, Inc., Brooklyn, N. Y.: Lyle Goodman will cover the Detroit area; Garvice Hill will cover Texas and adjacent territory; and T. P. Connelly will cover the Mid-Atlantic states.

Several vice presidents have been appointed by the American Meter Co. D. Clark Struble is now vice president—purchasing. A. McW. Wolfe, for-

merly manager of the Boston factory, has been made a vice president. Donald C. Wiley, who supervised expanding activities of main research laboratory in Erie, Pa., is vice president in charge of research. E. J. Mowry has become personnel director.

The Westcott & Greis, Inc., division of American Meter announces several personnel changes. Val Link rejoined the organization at Lafayette, La. Clay Braswell has transferred from Odessa, Texas, to Houston. George M. Lane has joined the Odessa division and Andy Sesack is now in Tulsa.

Edward J. Fitzgerald has been named advertising and sales promotion manager of Radiator Specialty Co., Charlotte, N. C., according to a recent announcement by Vincent P. Bresan, Jr., general sales manager.

The company has also announced the appointment of Wesley R. Griffith, of Stepney, Conn., as representative for the Solder Seal line of automotive, plumbing, and heating specialties of the company. He will cover the Connecticut-Rhode Island district.

George E. Connally, former eastern Pennsylvania sales representative for Tappan Stove Co., Mansfield, Ohio, has been promoted to district manager, it has been announced by D. S. Sharp, sales manager. Mr. Connally will supervise sales representatives in upper New York State, eastern Pennsylvania, and the New England states.

Tappan has also appointed Philip M. Gresh, of Pottstown, Pa., as sales representative in eastern Pennsylvania.

Caloric Stove Corp. has moved its Philadelphia offices to 12 So. 12th St., Philadelphia 7, according to Julius Klein, company president. The new address will house the metropolitan Philadelphia order department.

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L. C. Roney Passes Away From Heart Attack

L. C. (Pat) Roney, formerly head of the Los Angeles manufacturing company still bearing his name, and identified with the butane-propane industry since 1926, passed away the night of July 31 of a heart attack at Ely, Nev. He was returning to California from a fishing trip in Utah.



L. C. RONEY

In 1926, Mr. Roney came to the Pacific Coast as sales representative of The Bastian-Blessing Co.,

Chicago, continuing in such capacity until 1935 when he established the L. C. Roney Co. to manufacture LPG equipment but continued to represent Bastian-Blessing for a number of years thereafter.

In December 1946, he sold the L. C. Roney Co. and after another year retired from the industry to his fruit ranch at Beaumont, Calif. The Bastian-Blessing representation then went to Western Gas Equipment Co., Monterey Park, Calif., headed by Earl Evleth and Ted Wilson, and Mr. Evleth so continues to the present time.

Mr. Roney was always active in association affairs on the Pacific Coast and helped to establish codes and regulations to guide and control the industry in California.

Florida Firm Moves To New, Modern Quarters

One of the most modern gas display buildings in the South was completed recently by the Natural Gas & Appliance Co., a Green's Fuel distributor



Located on a main highway in Orlando, Fla., and with a lake frontage on two sides is the new showroom and offices of Natural Gas & Appliance Co.

in Orlando, Fla., since 1939. The fire-proof building, comprising approximately 22,000 sq. ft., is located on a new highway between Orlando and

Jacksonville, and is faced on two sides by a lake.

According to E. Reed Whittle, president of the company, improvements

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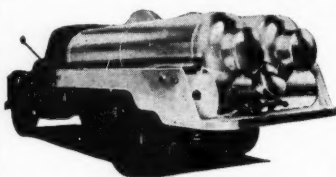
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will be made on the shore of the lake for beach use by the company employees.

At the warehouse end of the building a long sidetrack will accommodate three cars and a truck-loading level and a large parking area is provided where at least 20 trucks can be handled at one time. The 14,000-ft. warehouse, equipped with automatic truck levels for ease of handling, will accommodate at least three tiers of ranges.

The balance of space is a combination office and showroom completely air conditioned with the new Servel water-chilled unit. Electricity will be generated with LP-Gas. The all-glass showroom area, with dark green terrazzo floors and the latest lighting, was planned to give maximum emphasis to the white appliance display.

Orlando is the headquarters of Natural Gas & Appliance which also has showrooms in Ocala, Winter Garden, Webster, Sanford, and Apopka—all in Florida.

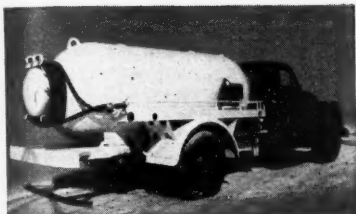
New Bulk Plant Will Serve Bremerton, Wash., Area

Plans for constructing a warehouse and distribution plant in the Bremerton, Wash., area are announced by the Liquefied Gas Corp., of Seattle, distributors of propane gas.

John J. Finney, manager, said construction would begin as soon as possible on property located off the Seabeck highway, a short distance beyond its intersection with the old Silverdale highway.

Finney said the Bremerton branch plant will be the eighth to be built in the state by the corporation. The local area is now served from the Puyallup plant. The Bremerton distribution point will service customers on the entire Olympic peninsula.

Construction of a railway spur to



TRUCK TANKS

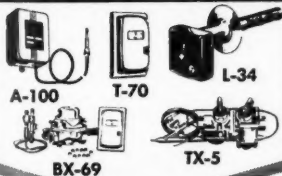
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the plant is contemplated by the Northern Pacific railway.

The plant will handle both cylinder and bulk tank service. The use of propane gas for heating and cooking has been becoming more popular annually throughout western Washington and the Kitsap peninsula market indicates a considerable potential, according to C. M. Ambrose, Jr., president of the corporation, which has been operating in the state for 14 years. Besides the Puyallup and Seattle plants, other branches are located in Aberdeen, Olympia, Munro and Mount Vernon, and the corporation also supplies propane to the Anacortes publicly-owned plant.

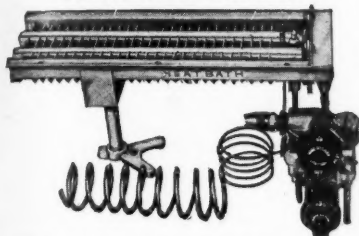
The local distributorship will operate from two to four trucks and employ up to four warehousemen, depending on business volume.

**Purdue "U" Holds First
 Operators Conference**

Problems of owners and operators of liquefied petroleum gas business installations, ranging from the technical phases to cost studies and sales devices, were discussed in the Central States LP-Gas Operators Conference held at Purdue University, Lafayette, Ind., June 28-29. Attending the two-day meeting were 72 representatives from Ohio, Illinois, Pennsylvania, Missouri, Kentucky, Oklahoma, New Jersey, Michigan, Georgia, Minnesota, Wisconsin, Florida, Louisiana and Indiana.

This conference was a part of Purdue's program of working relationship with all types of industries. While schools and workshops in such phases as carburetion and equipment care and upkeep for employees have been held in the past, this was the first meeting at the university for owners and operators in the industry. It was sponsored jointly by the Pur-

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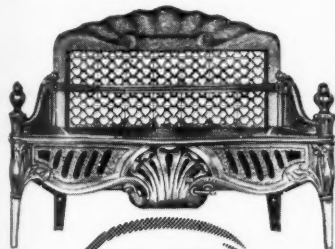


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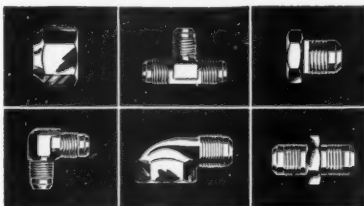
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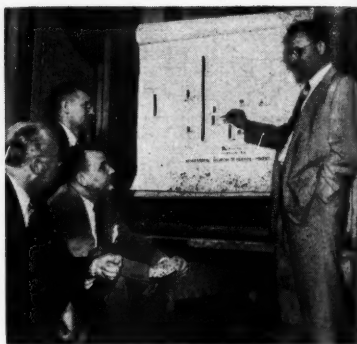
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W. G. Eggert (right), assistant division manager of Phillips Petroleum Co., Indianapolis, discusses a graph of the present liquid petroleum reserves during the recent session of the Central States LP-Gas managers' conference held at Purdue University, Lafayette, Ind. Others in picture are (left to right): John G. Guardiola, advertising manager, The Weatherhead Co., Cleveland, Ohio; Raymond Rains, president, Kentucky LP-Gas Assn., Louisville; and Joseph Crowden, Indiana director of the Liquefied Petroleum Gas Assn.

due Technical Extension Division and the Indiana LP-Gas Assn. with T. M. Feeley, Indianapolis, as president.

In welcoming the visitors to the campus, M. M. McClure, coordinator of adult education in the Technical Extension Division, outlined phases of the university's program with industry. He referred to this conference as "only a start in the LP-Gas field" and urged those from other states to cooperate with their state university in similar projects for mutual benefits.

Open discussion and exchange of ideas formed the core of the entire session and provided the incentive upon which plans for a meeting next year were started.